

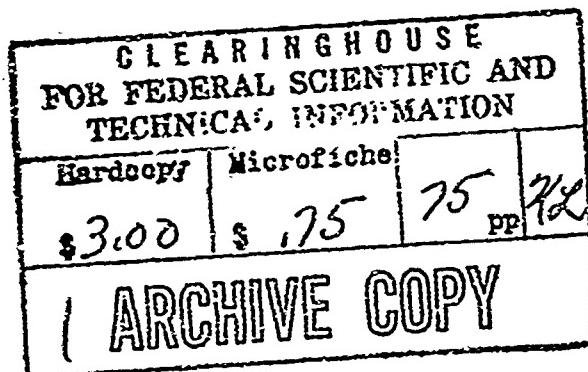
AD 40252

TECHNICAL REPORT

67-1

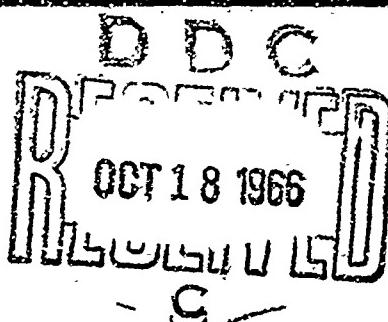
BIBLIOGRAPHY OF TECHNICAL PUBLICATIONS
AND PAPERS

January 1965 - June 1966



July 1966

UNITED STATES ARMY
NATICK LABORATORIES
Natick, Massachusetts 01760



Distribution of this
report is unlimited

AD _____

TECHNICAL REPORT
67-1

BIBLIOGRAPHY OF TECHNICAL PUBLICATIONS AND PAPERS

January 1965 - June 1966

August 1966

U. S. ARMY NATICK LABORATORIES
Natick, Massachusetts 01760

FOREWORD

This bibliography is a list of technical publications and papers by personnel of the U. S. Army Natick Laboratories and its contractors for the period January 1965 through June 1966. The Bibliography will be published on a fiscal year basis hereafter.

Reprints of journal articles, in some cases, are available from the individual authors. Copies of technical reports may be obtained from (1) the Defense Documentation Center, Cameron Station, Alexandria, Virginia 22314, or (2) the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. The "AD" number should be cited when ordering copies of reports. Those reports marked with an asterisk (*) are not available for distribution outside the agencies of the Department of Defense.


W. M. MANTZ
Brigadier General, USA
Commanding

Contents

	<u>Page</u>
Office of the Commanding General	1
Office of the Commanding Officer	1
Office of Scientific Director	1
Office of Deputy Commander	3
Technical Plans Office	3
Airdrop Engineering Division	4
Clothing and Organic Materials Division	5
Container Division	16
Earth Sciences Division	19
Food Division	23
Mechanical Engineering Division	44
Pioneering Research Division	46
Index to authors	62

ABSTRACT

A bibliographic listing of technical publications and papers by the personnel of the U. S. Army Natick Laboratories and its contractors for the period January 1965 through June 1966.

U. S. ARMY NATICK LABORATORIES

COMMANDING GENERAL

Technical Papers

1. VAUGHAN, W. W. Remarks. Army Executive Club, Boston, Mass., 2 February 1965.
2. _____ Remarks. U. S. Army Quartermaster School, Officer Career Class 66-1, Army Supply Officer Class 66-5, and Officer Basic Class 66-4 Graduations, Fort Lee, Va., 17 December 1965.
3. _____ Remarks. Military-Industry Conference, Research and Development Associates, Inc., Natick, Mass., 26 October 1965.
4. _____ Remarks. Seventy-Six Club, Boston, Mass., 12 March 1965.

COMMANDING OFFICER

Technical Papers

5. MANTZ, W. M. Remarks. Conference on Cellular Materials, U. S. Army Natick Laboratories, Natick, Mass., 13 April 1966.
6. _____ Leadership. Commissioning Ceremony, Northeastern University ROTC Graduates, Boston, Mass., 18 June 1966.
7. _____ Remarks. National Security Industrial Association, Natick, Mass., 21 June 1966.

OFFICE OF SCIENTIFIC DIRECTOR

Technical Papers

8. FLANAGAN, J. H. Engineering at U. S. Army Natick Laboratories. AMC Board Study Group, The AMC Engineering Function, Aberdeen, Md., 14-15 July 1965.

OFFICE OF SCIENTIFIC DIRECTOR

Technical Papers (continued)

9. FLANAGAN, J. H. Maintaining incentives for professional engineering careers in Government Service, Massachusetts Society of Professional Engineers, Framingham, Mass., 20 May 1966.
10. _____ The role of science in the solution of logistical problems, National Security Industrial Assn. Symposium, Natick, Mass., 21 June 1966.
11. SIELING, D. H. Freeze-dried foods - a new revolution. Institute for Graduate Dietitians, Washington, D. C., 23 February 1965.
12. _____ Research and development to support the combat soldier. Norwood Rotary Club, Norwood, Mass., 26 April; Raytheon Company, Framingham, Mass., 28 June; and Armed Forces Communications and Electronics Association, Cambridge, Mass., 21 October 1965.
13. _____ Role of the Commodity Command's Chief Scientists as viewed by a Technical Director in an AMC Lab. AMC Chief Scientists Conference, Huntsville, Ala., 8 December 1965.
14. _____ Science in New England. Panel on Natural Resources and Sciences in New England, University of New Hampshire Centennial Convocation, Durham, N. H., 8 October 1965.
15. _____ Scientists are people too! Regional Junior Science and Humanities Symposium, Worcester Polytechnic Institute, Worcester, Mass., 26 April 1966.
16. _____ Thoughts for food. Northeast Area Conference on Food Distribution, Department of Agriculture, New York City, N. Y., 18 May 1965; 9th Annual Scientific Briefing for Tomorrow, Worcester Polytechnic Institute, Worcester, Mass., 6 April 1966; Wm. Underwood Co. Management Personnel from Latin America, Europe, and domestic operations, Waltham, Mass., 7 June 1966; and QM Women's Association, Natick, Mass., 8 June 1966.
17. _____ What is new for combat survival. Needham Exchange Club, Needham, Mass., 21 January 1965.

DEPUTY COMMANDER

Technical Papers

18. RIORDAN, C. T. Dismount and fight on foot. Memorial Day Observance, Sudbury, Mass., 30 May 1966.
19. _____ NLABS supports the Combat Soldier. U. S. Army Quartermaster School, Quartermaster Officer Refresher (Reserve Component) Class 66-2 Graduation, Fort Lee, Va., 28 January 1966.
20. _____ Remarks. Orientation - Northeastern ROTC Students, U. S. Army Natick Laboratories, Natick, Mass., 24 February 1965; Research & Development Associates, Inc., Denver, Colo., 6 April 1965; Military-Industry Conference, Research & Development Associates, Inc., Chicago, Ill., 12 April 1966.
21. _____ R&D work - your neighbor. National Honor Society (Induction of Members), Framingham South High School, Framingham, Mass., 3 March 1965.
22. _____ The Soldier and the R&D Laboratory. U. S. Army Quartermaster School, Quartermaster Officer Refresher (Reserve Component) Class 66-1 Graduation, Fort Lee, Va., 30 July 1965.
23. _____ They fight - not for the glory. Minutemen Chapter, Association of the U. S. Army National Guard, Worcester, Mass., 24 March 1966.

TECHNICAL PLANS OFFICE

Books

24. PETERSON, M. S., and D. K. TRESSLER (Avi Publishing Co., Inc.), editors. Food technology the world over, Vol. II. Avi Publishing Co., Inc., Westport, Conn. (1965).

AIRDROP ENGINEERING DIVISION

Technical Reports

25. Airdrop impact capability of the Redeye missile in models 2 and 3 tripak containers, H. E. ANTKOWIAK. 66-13 AD, March 1966 (AD 480880).
26. Airdrop impact capability of the Redeye missile tripak container (production model), A. P. MASCHI. 66-45 AD, May 1966. (AD 485104).
27. Airdrop of supplies and equipment rigging drinking water for free type airdrop, J. N. SHUMAN, 24 March 1966.
28. Free-drop containers for liquids (laboratory evaluation), E. BARNICLE, 18 March 1966.
29. Lightweight gantry system (EDT), M. J. LYNCH, June 1966.
30. Military potential test of in-aircraft lift system for rigging vehicles for airdrop, M. J. LYNCH and J. N. SHUMAN. In-house Summary, Final, September 1965.

Technical Papers

31. BROWN, E. J. Report of sub-group C (platforms) of the Joint Technical Coordinating Group for Airdrop, Joint Technical Coordinating Group, Andrews Air Force Base, 26 January 1966 and Naval Air Recovery Facility, El Centro, Calif., 20 April 1966.
32. Problems associated with airdrop equipment under the cognizance of the Mechanical Equipment Branch, National Security Industrial Association, Natick, Mass., 21 June 1966.
33. GIONFRIDDO, M. P. Aeronautical system-airdrop. National Security Industrial Association, Natick, Mass., 21 June 1966.
34. LEWIS, W. R. Parachute and related textile equipment. National Security Industrial Association, Natick, Mass., 21 June 1966.
35. WEITZLER, I. M. Introduction to airdrop engineering requirements and problems. National Security Industrial Association, Natick, Mass., 21 June 1966.

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Reports

36. Advanced space suits for extravehicular and lunar exploration, D. FISKE and N. BERLINER. NASA, R-135, Quarterly Report 3, May 1965.
37. Apollo A-5G testing program, S. C. GRAVINA. NASA, T-43367-G, Monthly Progress Reports 1-4, 4 February, 4 March, 12 May, and 3 June 1966.
38. Armor materials research. Part I. Proceedings of a meeting of armor materials research contractors, 19-20 May 1964. C&CM-5, August 1965 (AD 621246).
39. Ballistic resistance of needle-punched nylon felts, R. C. KEITH, The Felters Co., Contract No. DA19-129-AMC-204(N). 66-39 CM (Textile Series 137), May 1966 (AD 633881).
40. Camouflage of the individual soldier, F. J. RIZZO. MRE 65-3, May 1965.
41. Degradation of halopolymers by exposure to high-intensity thermal pulses, W. J. BARNES and W. E. C. YELLAND. MRE 65-4, May 1965.
42. Design and development of an articulated armor garment, W. R. WEIR, Illinois Institute of Technology, Contract No. DA19-i29-QM-1809. Textile Series 130, March 1965 (AD 465119).
43. Development of charcoal impregnation process for CW protective overgarment, GAGLIARDI RESEARCH CORP., Contract No. DA19-129-AMC-675(N), Progress Reports, October 1965, February 1966, and June 1966.
44. Development of shade standards for ribbon colors, F. J. RIZZO, A. M. CAMPBELL, and R. J. EVANS. MRE 65-5, June 1965.
45. Development of thermoelectric heating and ventilating system, A. H. BERNARD and L. J. FOX, Westinghouse Electric Corp., Contract No. DA19-129-QM-1981, April 1965.
46. Evaluation of finishes for bronze grave markers, J. P. URBANEK. MRE 65-2, April 1965.

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Reports (continued)

47. Explosive ordnance disposal protective suit design and review analysis, V. D. IACONO, Picatinny Arsenal. Project No. PRON GG53754601GGBG, 6 April 1966.
48. Extent and cause of deterioration of nylon mountain climbing rope, L. I. WEINER and L. J. SHEEHAN. 66-24-CM (Textile Series 135), March 1966 (AD 631428).
49. Feasibility study of personnel shirt-sleeve clothing and disposal. NASA, Order I-67,067,M.5.138, Final Progress Report, Phase I, June 1966.
50. Flash protection device, E. HARTOUNI, General Dynamics Corp., Contract No. DA19-129-AMC-368(N). Thermal Protective Materials 65-6, July 1965 (AD 479164).
51. Gemini extravehicular life test program, S. C. GRAVINA. NASA, T-23772-G, Progress Reports 1 and 2, September and October 1965.
52. Gemini space suit reliability program, S. C. GRAVINA. NASA, T-23772-G, Progress Reports 10 and 11, January and February 1965, and Final Report. July 1965.
53. Improved Natick Laboratories colorimeter for textile fabric inspection, R. S. HUNTER and J. B. CHRISTIE, Hunter Associates Laboratory, Inc., Contract No. DA19-129-QM-1976. 66-19-CM (Textile Series 139), February 1966 (AD 480214).
54. Inspection system for thermal protective coverall, V. D. IACONO and S. J. WERKEWSKI. NASA, T-32387-G, April 1965.
55. Interior corrosion of steel five-gallon military water cans, J. P. URBANEK. 66-40-CM (MRE 66-1), May 1966 (AD 633214).
56. Investigation of organic compounds for thermal protection, A. W. BERGER and J. A. PIROG, Monsanto Research Corp., Contract No. DA19-129-QM-1773(X). C&OM-12, October 1965 (AD 477682).
57. Mass, permeability, and thickness changes in abraded fabrics, L. I. WEINER. Textile Series 136, October 1965 (AD 629603).
58. Measurement of rubber elasticity at low temperatures using a twist recovery apparatus, A. WILSON. 66-4-CM (C&OM-14), January 1966 (AD 630909).

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Reports (continued)

59. The met and the clo. Part I. Restatement of the original definitions, D. L. FISKE. 66-21-CM (MRE 66-2), May 1966 (AD 634271).
60. Nitroso rubber handbook, M. C. HENRY and C. B. GRIFFIS. 66-2-CM (C&OM-15). January 1966 (AD 632196).
61. Photographic study of stress wave propagation and crack growth in a transparent plastic, A. F. WILDE and J. J. RICCA. 66-46-CM (C&OM-19), May 1966 (AD 633891).
62. Physical and rheological properties of nitroso rubbers, G. L. BALL III, I. O. SALYER, J. V. PUSTINGER, and F. N. HODGSON, Monsanto Research Corp., Contract No. DA19-129-AMC-151(N). Quarterly Reports 7, 8, and 9, April, July, and October 1965 (AD 628001, 628002, and 628003).
63. Polyester batting for clothing and mitten liners, H. MADNICK. 66-23-CM (C&ED 40), March 1966.
64. Polymerization studies leading to high strength chemical resistant elastomers serviceable at temperature extremes, D. I. RELYEA, H. P. SMITH, and A. N. JOHNSON, U. S. Rubber Co., Contract No. DA19-129-AMC-487(N). Semiannual Reports, July and December 1965 (AD 480181L).
65. Preliminary study of two passive thermal control systems using permeable membranes, F. VOTTA, JR. NASA, R-135, August 1965.
66. Qualification test of Gemini space suit assembly, S. C. GRAVINA. NASA, T-23772-G, February 1965.
67. Qualification test plan and procedures for thermal protective coverall assembly (TPCA) for space environmental simulation laboratory (SESL) use, V. D. IA CONO. NASA, T-32387-G, July 1965.
68. Qualification test report of Gemini extravehicular gloves, S. C. GRAVINA. NASA, T-23772-G, August 1965.
69. Radiation characteristics of military clothing observed with a passive detection system, A. O. RAMSLEY and A. P. MEROLA. 66-16-CM (Textile Series 140), March 1966 (AD 481656).

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Reports (continued)

70. Redesign and modifications to autodeployable face mask, R. E. SEBRING and G. A. M. BUTTERWORTH, Fabric Research Laboratories, Contract No. DA19-129-AMC-173(N). C&OM-11, July 1965 (AD 475533).
71. Research compounding of nitroso rubber, C. B. GRIFFIS. C&OM-13, October 1965 (AD 625815).
72. Research compounding of nitroso rubber terpolymers, C. B. GRIFFIS and C. W. SHURTLEFF. 66-42-CM (C&OM-21), May 1966 (AD 635114).
73. Research and development of blast protective footwear, E. S. FUJINAKA and J. L. MacDONALD, Illinois Institute of Technology, Contract No. DA19-129-QM-2061. Textile Series 131, March 1965 (AD 471324).
74. Research on phototropic behavior of materials for flash-blindness protection, A. F. HADERMANN and S. S. NELSON, Melpar, Inc., Contract No. DA19-129-AMC-389(N). Thermal Protective Materials 65-3, August 1965 (AD 471409).
75. Research on synthesis of unsaturated fluorocarbon compounds, P. TARRANT, D. PERRY, J. TANDON, A. WRIGHT, and S. MISAKI, University of Florida, Contract No. DA19-129-AMC-79(N). Semiannual Reports 4 and 5, March and September 1965 (AD 466967 and AD624867), and No. 6, 66-41-CM, March 1966 (AD 634116).
76. The resistance of nylon/cotton and nylon/rayon poplins to ignition by thermal radiation, W. M. KOZA. MRE 65-1, January 1965.
77. Silica-reinforced ethylene-propylene diene (EPD) rubbers, P. DUNN and V. S. JAVIER. C&OM-7, August 1965 (AD 620694).
78. Sources of thermal radiation for nuclear weapons effects studies, E. T. WALDRON. Textile Series 134, August 1965 (AD 470270).
79. Studies in the perforation of thin metallic plates by projectile impact: I. Normal impact of circular cylinders, L. E. FUGELSO and F. H. BLOEDOW, General American Transportation Corp., Contract No. DA19-129-AMC-247(N). 66-58-CM (C&OM-9), June 1966.
80. Study of dynamic birefringence and strain produced in transparent polymers by mechanical impact, A. F. WILDE, J. J. RICCA, and F. deS. LYNCH. 66-6-CM (C&OM-18), February 1966 (AD 630913).

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Reports (continued)

81. A survey of the deterioration of nylon mountain climbing rope, L. I. WEINER and L. J. SHEEHAN. MRE 65-6, July 1965, and Textile Series 135, March 1966.
82. Synthesis of chromotropic colorants, R. A. COLEMAN, W. H. FOSTER, JR., J. KAZAN, and M. MASON, American Cyanamid Co., Contract No. DA19-129-AMC-269(N). 66-9-CM (Textile Series 138), February 1966 (AD 630903).
83. Synthesis of high-strength chemical resistant elastomers for extreme temperature service, E. W. COOK, C. A. ERICKSON, and J. A. GANNON, FMC Corp., Contract No. DA19-129-AMC-147(N). C&OM-4, January 1965 (AD 463850).
84. Synthesis of organolead compounds, M. C. HENRY and H. GÖRTH. Quarterly Reports 15 and 16, March and June 1965.
85. Synthesis and polymerization of fluorinated sulfur-modified nitroso rubber, E. C. STUMP, W. H. OLIVER, and C. D. PODGETT, Peninsular Chemical Research Co., Inc., Contract No. DA19-129-AMC-152(N). Quarterly Report No. 9, December 1965 (AD 633058), and No. 10, 66-52-CM, March 1966 (AD 634728).
86. The synthesis of special fluorine-containing monomers, J. D. PARK and J. R. LACHER, University of Colorado, Contract No. DA19-129-QM-1926. Semiannual Reports 2 and 3, May and October 1965 (AD 465114 and AD 625935), and 66-54-CM (C&OM-17), January 1966.
87. Textiles for thermal radiation protection, E. T. WALDRON. Textile Series 132, April 1965 (AD 617707).*
88. Theoretical and experimental study of low-velocity penetration phenomena, E. T. CANNON, Utah Research and Development Co., Inc., Contract No. DA19-129-AMC-150(X). Semiannual Report, December 1965.
89. Thermalibrium headgear assembly, E. A. UMINSKI, Mine Safety Appliance Co., Contract No. DA19-129-QM-2045. January 1965.
90. Thermal-physical parameters of materials, R. E. LARSON and A. R. KYDD, Litton Systems, Inc., Contract No. DA19-129-QM-1998. 66-3-CM (C&OM-16), January 1966 (AD 631295).

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Reports (continued)

91. Thermal protective coverall, V. D. IACONO. NASA, T-32387-G, Progress Report 1, February 1965.
92. Thermal protective coverall, design and review analysis, V. D. IACONO. NASA, T-32387-G, March 1965.
93. The thermal resistance of Nomex fabrics, H. SHRAGER. MRE 65-7, October 1965 (AD 474015).

Journal Articles

94. ASSAF, J. E. Military applications of coated fabrics. Amer. Dyestuff Reporter, 55(10):50 (9 May 1966).
95. CLOUGH, S., J. J. van AARTSEN, and R. S. STEIN. Scattering of light by two-dimensional spherulites. J. Appl. Phys., 36(10):3072 (October 1965).
96. COOK, E. W., and B. F. LANDRUM (FMC Corp.). Synthesis of partially fluorinated oxetanes. J. Heterocyclic Chem., 2(3):327 (September 1965).
97. DAVIDSOHN, W. E., K. HILLS, and M. C. HENRY. Group IV, organo-metallic sulfur compounds: Thioderivatives of phenyl-germanes, -stannanes, and -plumbanes. J. Organometallic Chem., 3:285 (March 1965).
98. _____ and M. C. HENRY. Tetraethynylsilane, tetraethynylgermane, and some substituted ethynylorganogermanes. J. Organometallic Chem., 5:29-34 (May 1966).
99. GODDARD, C. M., and M. C. HENRY. A gas scrubber for eliminating noxious vapors. J. Chem. Educ., 42(3):136 (March 1965).
100. _____ and M. C. HENRY. A modified condensing apparatus for both refluxing and distilling. J. Chem. Educ., 42(4):221 (April 1965).
101. GORTH, H., and M. C. HENRY. Organolead chemistry. International Lead Zinc Res. Org. Digest, 16:2 (October 1965).
102. GRIFFIS, C. B., and M. C. HENRY. Nitroso rubbers. Rubber and Plastics Age, 46(1):63 (January 1965).

CLOTHING AND ORGANIC MATERIALS DIVISION

Journal Articles (continued)

103. GUPTA, R. P., and R. C. LAIBLE. Study of hydrogen bonding in polyvinyl alcohol by a nuclear magnetic resonance method. *J. Polymer Sci., Part A*, 3(11):3951 (November 1965).
104. HENRY, M. C., and W. E. DAVIDSOHN. Organometallic polymers. *Ann. Acad. Sci.*, 125(1):172 (28 May 1965).
105. HILLS, K., and M. C. HENRY. Organolead chemistry. *International Lead Zinc Res. Org. Digest*, 15:2 (April 1965).
106. _____ and M. C. HENRY. Some complexes of phenyllead halides. *J. Organometallic Chem.*, 3:159 (March 1965).
107. KENNEDY, S. J. Boots, clothing and body armor for Vietnam. *The Review*, 45(5):41 (March-April 1966).
108. KOERNER von GUSTORF, E., M. C. HENRY, and C. DiPIETRO. Photochemical investigation of Fe(CO) with vinyl chloride, styrene, propylene and vinyl ethyl ether. *Zeitschrift fur Naturforschung*, 21(1):42 (January 1966).
109. MILES, T. D., A. C. DELASANTA, and D. G. SEDOR. Separation and analysis of copper naphthenate using thin-layer chromatography. *Amer. Dyestuff Reporter*, 54(13):462 (21 June 1965).
110. RIZZO, F. J. Application of colour measurement in textile practice. *J. Soc. of Dyers and Colourists*, 81(12):592 (December 1965).
111. _____ Practical applications of colour measurement in textile industry. *Can. Textile J.*, p 1 (10 December 1965).
112. RUDOLPH, G., and M. C. HENRY. The synthesis of a new series of zinc compounds. *Inorg. Chem.*, 4(7):1076 (July 1965).
113. SELIGSBERGER, L. The absorption of water vapor by leather. *J. Amer. Leather Chem. Assoc.*, 60(8):402 (August 1965).
114. STEIN, R. S., P. ERHARDT, J. J. van AARTSEN, S. CLOUGH, and M. RHODES. Theory of light scattering from oriented and fiber structures. *J. Polymer Sci., Part C*, 13:1-35 (1966).
115. VALKO, E. I., and C. K. CHIKLIS (Lowell Technological Institute). Effects of thermal exposure on the physicochemical properties of polyamides. *J. Appl. Polymer Sci.*, 9(8):2855 (August 1965).

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Papers

116. ALESI, A. L., M. I. KLIMAN, and G. R. THOMAS. A comparison of the impact behavior in composites of single crystal and polycrystalline ceramics. Army Science Conference, West Point, N. Y., 7 June 1966
117. ASSAF, J. E. Military applications of coated fabrics. American Association of Textile Chemists and Colorists, Chicago, Ill., 13 October 1965.
118. BAILEY, T. L., and E. R. BARRON. Report on infantry and aircrew armor. Army Symposium, Mellon Institute, Pittsburgh, Pa., 5 May 1966.
119. CLOUGH, S., and R. S. STEIN. Light scattering by ringed spherulites. American Physical Society, Kansas City, Mo., 25 March 1965.
120. DAVIDSOHN, W. E., and M. C. HENRY. Tetraethynylsilane, tetraethylgermane, and some substituted ethynylorganogermanes. International Symposium on Organometallic Chemistry, Madison, Wis., 1 September 1965.
121. DESPER, C. R., and R. S. STEIN. The measurement of pole figures and orientation functions for polyethylene films prepared by unidirectional and oriented crystallization. American Physical Society, Durham, N. C., 30 March 1966.
122. GREEN, J., and E. COTTRILL (Thiokol Chemical Corp.), and J. A. CASTELLANO (RCA). Aromatic polyfluoronitroso monomers and polymers. Regional Meeting, American Chemical Society, Philadelphia, Pa., 3 February 1966.
123. HARTOUNI, E., and J. PALMER (General Dynamics Corp.). Thin film characteristics of CdS and ZnS. 25th Physical Electronics Conference, Cambridge, Mass., 25 March 1965.
124. HENRY, M. C. Nitroso rubbers. American Ordnance Association, Materials Div., Plastics Sec., Natick, Mass., 2 November 1965.
125. KENNEDY, S. J. Clothing for the Arctic. Arctic Institute of North America, Washington, D. C., 10 February 1966.

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Papers (continued)

126. KENNEDY, S. J. Consumer values in textiles. Norfolk County Teachers' Convention, Wrentham, Mass., 29 October 1965.
127. Functional design in military clothing. Cornell University, Ithaca, N. Y., 28 April 1966.
128. Functional design and serviceability in military clothing and equipment. American Association of Textile Technologists, Lowell Technological Institute Chapter, Westford, Mass., 9 May 1966.
129. Military textiles and clothing--changing needs. American Association of Textile Technologists, New York Chapter, New York City, N. Y., 1 June 1966.
130. New and improved textile items being used in Vietnam. American Association of Textile Technologists, New England Chapter, Natick, Mass., 3 May; American Association of Textile Chemists and Colorists, Groton, Conn., 20 May; Wareham Junior-Senior High School, Wareham, Mass., 27 May; Textile Analysts Group, New York City, N. Y., 14 June 1966.
131. Synthetic fibers in military uses. American Textile Manufacturers Association, Charlotte, N. C., 15 November 1965.
132. A. L. LIPMAN, and W. S. COWIE. Reliability requirements in research and development of textile products. American Society for Quality Control, Charlotte, N. C., 12 February 1965.
133. LAIBLE, R. C., and J. SCHOMER. A method of obtaining ballistic stress-strain information for fibrous structures. Advanced Research Projects Agency, Interdisciplinary Laboratory Conference, Natick, Mass., 25 May 1965.
134. LASTNIK, A. L. A crash and ballistic protective flight helmet. Aerospace Medical Association, Las Vegas, Nev., 28 April 1966.
135. U. S. Army Natick Laboratories accomplishments for head protection of aircraft crewmen. Life Science Division, Army Research Office, Office of Chief Research and Development, Bethesda, Md., 2 March 1966.
136. McISAAC, H. J. Defect point system in cloth grading. Textile Quality Control Association, Spartanburg, S. C., 18 March 1965.

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Papers (continued)

137. MURRAY, G. Plastics applications. American Ordnance Association, Materials Div., Plastics Sec., Natick, Mass., 2 November 1965.
138. NELSON, S. S., and A. F. HADERMANN (Melpar Inc.). Time-resolved spectrophotometric studies of the photooxidation of leuco-methylene blue in aqueous media. American Chemical Society, Atlantic City, N. J., 12 September 1965.
139. RIZZO, F. J. Application of colour measurement in textile practice. Symposium on Satisfying Modern Demands in Colour, Society of Dyers and Colourists, Portrush, N. Ireland, 15 September 1965.
140. Practical applications of colour measurement in the textile industry. Canadian Association of Textile Colourists and Chemists, Montreal, Canada, 19 March 1965.
141. Requirements for textile processing of military textiles. Hudson-Mohawk Section, American Association of Textile Chemists and Colorists, Albany, N. Y., 6 May 1966.
142. , A. P. MEROLA, and R. J. EVANS. Instrumental control of the color and colorfastness of military textiles, a progress report. American Society for Quality Control, Atlanta, Ga., 10 February; and New York City, N. Y., 3 June 1966.
143. SCHNEIDER, N. S. Chain stiffness in nylon-1 polymers. Advanced Research Projects Agency, Interdisciplinary Laboratory Conference, Natick, Mass., 25 May; Annual Lecture Form Series on High Polymer Chemistry, Lowell Technological Institute, Lowell, Mass., 4 October; and Chemistry Department Seminar, Clark University, Worcester, Mass., 21 April 1965.
144. The molecular characterization of polymers. American Chemical Society, Phoenix, Ariz., 14 January 1966.
145. SELIGSBERGER, L. The determination of silicones in leather. American Leather Chemists Association, Mackinac Island, Mich., 21 June 1965.
146. Vulcanized boots for combat footwear. American Leather Chemists Association, Atlantic City, N. J., 14 June 1966.

CLOTHING AND ORGANIC MATERIALS DIVISION

Technical Papers (continued)

147. STEIN, R. S., P. F. ERHARDT, and S. B. CLOUGH. Scattering of light by anisotropic heterogeneous solids possessing nonrandom orientation fluctuations. American Physical Society, Durham, N. C., 30 March 1966
148. WILDE, A. Mechanical-optical response of polymers to impact. American Ordnance Association, Materials Div., Plastics Sec., Natick, Mass., 2 November 1965.
149. _____, J. J. RICCA, and F. deS. LYNCH. Preliminary investigation of mechanical and optical response of polymers to impact. Advanced Research Projects Agency, Interdisciplinary Laboratory Conference, Natick, Mass., 25 May 1965.
150. YELLAND, W. E. C. Thermal degradation of polymers. American Ordnance Association, Materials Div., Plastics Sec., Natick, Mass., 2 November 1965.

CONTAINER DIVISION

Technical Reports

151. Design of data retrieval and processing systems, J. P. AHLADAS, Hamilton Standard Co., Contract No. DA19-129-AMC-603, November 1965.

Journal Articles

152. NEBESKY, E. A. Multipurpose containers for the future. Minutes, Fall Meeting of the American Ordnance Association, Packaging Division, Container Section, Salt Lake City, Utah (6-8 October 1965).
153. _____, G. L. SCHULZ, and F. J. RUBINATE. Food packaging for space travel. Proceedings, American Ordnance Association Meeting, Materials and Methods Section, Aberdeen Proving Ground, Md. (28-29 September 1965).
154. _____, G. L. SCHULZ, and F. J. RUBINATE. Packaging for space flights. Activities Report, 17(1):32 (Spring, 1965).
155. O'SULLIVAN, D. J. Instrumentation and container performance. Activities Report, 17(2):158 (Fall, 1965).
156. PAYNE, G. O., C. J. SPIEGL, and J. J. KILLORAN. Packaging aspects of irradiation. Modern Packaging, 38(8):148 (April 1965).
157. SZCZEBLOWSKI, J. W., and F. J. RUBINATE. Integrity of food packages. Modern Packaging, 38(10):131 (June 1965).
158. VENETOS, M. A. New container materials. Activities Report, 17(2):152 (Fall, 1965).

Technical Papers

159. KILLORAN, J. J. Packaging for radiation sterilized foods. National Security Industrial Association, Natick, Mass., 22 June 1966.
160. _____ The U. S. Army's food irradiation program with emphasis on packaging. Blue Grass Section, Institute of Food Technologists, Louisville, Ky., 23 September 1965.

CONTAINER DIVISION

Technical Papers (continued)

161. KILLORAN, J. J., J. D. BREYER, and E. WIERBICKI. Development of flexible containers for irradiated foods: I. Screening of commercially available plastic laminates. Institute of Food Technologists, Portland, Ore., 24 May 1966.
162. NEBESKY, E. A. Multipurpose containers for the future. American Ordnance Association, Packaging Division, Salt Lake City, Utah, 6-8 October 1965.
163. _____ Packaging. Massachusetts Institute of Technology, Cambridge, Mass., 25 June 1965.
164. _____ Packaging for space travel. Maine Canners and Freezers Association, Kennebunkport, Me., 14 June 1965, and Seminar on Wax Packaging in the Food Industry, University of Massachusetts, Amherst, Mass., 22-23 March 1966.
165. _____ and M. S. PETERSON. Future developments in packaging. National Security Industrial Association, Natick, Mass., 22 June 1966.
166. _____ and M. S. PETERSON. Packaging for foods in 1986. Research and Development Associates, Inc., Chicago, Ill., 12 April 1966.
167. _____, G. L. SCHULZ, and F. J. RUBINATE. Food packaging for space travel. American Ordnance Association, Materials and Methods Section, Aberdeen Proving Ground, Md., 28-29 September 1965.
168. _____, G. L. SCHULZ, and F. J. RUBINATE. Packaging for space flights. Research and Development Associates, Inc., Denver, Colo., 6-8 April 1965.
169. O'SULLIVAN, D. J. Instrumentation and container performance. Military-Industry Conference, Research and Development Associates, Inc., Natick, Mass., 26-27 October 1965.
170. PALESE, D. J. Study of space gases in flexible packages. Military-Industry Conference, Research and Development Associates, Inc., Natick, Mass., 26-27 October 1965.
171. RINSCHLER, R. A. Problems with weather resistant fiberboard. National Security Industrial Association, Natick, Mass., 22 June 1966.

CONTAINER DIVISION

Technical Papers (continued)

172. RUBINATE, F. J. Flexible packaging systems. National Security Industrial Association, Natick, Mass., 22 June 1966.
173. VENETOS, M. A. Design criteria for containers. National Security Industrial Association, Natick, Mass., 22 June 1966.
174. _____ and J. P. AKREP. New container materials, Military-Industry Conference, Research and Development Associates, Inc., Natick, Mass., 26-27 October 1965.

EARTH SCIENCES DIVISION

Technical Reports

175. Analysis of alluvial fans, R. L. ANSTEY. ES-20, November 1965.
176. Areal distribution and diurnal variation of water vapor near the ground in the contiguous United States, A. V. DODD. ES-17, November 1965 (AD 626471).
177. Climatic atlas for Southeast Asia, H. L. OHMAN. ES-19, December 1965 (AD 632878).
178. Clothing almanac for Southeast Asia, R. L. ANSTEY. 66-20-ES (ES-22), January 1966 (AD 633631).
179. Glaciological investigations on Sukkertoppen Icecap, Southwest Greenland, Summer 1964, A. S. RUNDLE. Institute of Polar Studies, Report No. 14, The Ohio State University Research Foundation, Contract No. DA19-129-QM-2094, February 1965.
180. Glaciological study on Devon Island, R. M. KOERNER. Contract No. DA19-129-AMC-642(N), May 1966 (AD 633617).
181. Marsh ecology research, part I and II, J. DELL, Dept. of Agronomy, Cornell University, Contract QMRE (Natick) No. 185, 1966.
182. Maximum hourly durations of high and low temperatures, J. C. HOOK, Indiana State University, Contract No. DA19-129-AMC-366(N), April 1966.
183. Mediterranean analogs of California soil vegetation types, P. J. ZINKE, University of California (Berkeley), Wildlife Research Center, Contract No. DA19-129-AMC-203(N), 15 June 1965.
184. A method for assessing daily minimum temperature from summarized data, E. E. LACKEY. ES-18, December 1965 (AD 628766).
185. Some environmental aspects of the human factors tropical field studies, J. V. CHAMBERS. ES-16, May 1965 (AD 617706).
186. The Yuma Test Station, Arizona, hourly and daily insolation record, 1951-1962, I. V. BENNETT. ES-15, March 1965 (AD 462122).

EARTH SCIENCES DIVISION

Journal Articles

187. BENNETT, I. V. Heat balance of the earth. *Geographical Review*, 56(1):123-124 (January 1966).
188. _____ Monthly maps of mean daily insolation for the United States. *Solar Energy*, 9(3):145-148 (July-September 1965).
189. BRIERLY, W. B. Atmospheric sea-salt design criteria areas. *J. Environmental Sci.*, 8(5):15-23 (October 1965).
190. DODD, A. V. Dew point distribution in the contiguous United States. *Monthly Weather Review*, 93(2):113-122 (February 1965).
191. _____ Some aspects of the climate of Southwest Asia. *Meteorology Magazine*, 94(2):38-47 (February 1965).
192. HASTINGS, A. D. Mountain geography. *Army R&D Newsmagazine*, 7(4):34-35 (April 1966).

Technical Papers

193. ANSTEY, R. L. Application of quantified terrain data to vehicle design criteria. *Army Science Conference*, West Point, N. Y., 17 June 1966.
194. _____ The climatological work of Ellsworth Huntington. *Colloquy on Ellsworth Huntington*, New Jersey State College, Trenton, N. J., 14 December 1965.
195. _____ The nature of climate and land configuration in Viet Nam. *National Security Industrial Association*, Natick, Mass., 21 June 1966.
196. BENNETT, I. V. Frequency of daily insolation in Anglo-North America during June and December. *Solar Energy Society*, Boston, Mass., 23 March 1966.
197. _____ The mapping of solar radiation data. *Solar Energy Society*, Phoenix, Ariz., 15-17 March 1965.
198. BRIERLY, W. B. Atmospheric sea-salt design criteria. *Institute of Environmental Sciences*, Chicago, Ill., 21 April 1965.

EARTH SCIENCES DIVISION

Technical Papers (continued)

199. DALRYMPLE, P. C. Atmospheric sciences research tools and facilities at Natick Laboratories. Army Meteorological R&D Coordinating Committee, U. S. Army Electronics Laboratories, Fort Monmouth, N. J., 27-29 April 1965.
200. DODD, A. V. The areal distribution of types of daily march of dew point in the contiguous United States. Association of American Geographers, Columbus, Ohio, 21 April 1965.
201. LIESKE, B. J., and L. STROSCHEIN. Arctic radiative divergence measurements. American Meteorological Society, Washington, D. C., 22 April 1965.
202. PETERSON, E , and J. CLARK. Insolation in relation to cloud characteristics in the Colorado Front Range. VII Congress of the International Association for Quaternary Research, Boulder, Colo., August 1965.
203. ROBISON, W. C. The sources of geographic data. National Science Foundation Summer Training Program, Thayer Academy, Braintree, Mass., July 1965.
204. THOMPSON, W. F. Summit sculpture and regional mountain environment in the Western United States. Alpine Symposium, International Association for Quaternary Research, Boulder, Colo., 3 September 1965.

Books

205. The ecology of malnutrition in Middle Africa, J. M. MAY. Vol 5, Studies in Medical Geography, Hafner Publishing Co., N. Y. Contract No. DA19-129-QM-1946(N), 1965.
206. The ecology of malnutrition in Central and Southeastern Europe, J. M. MAY. Vol 6, Studies in Medical Geography, Hafner Publishing Co., N. Y. Contract No. DA19-129-AMC-240(N), 1966.

Book Chapters

207. BRIERLY, W. B. Atmospheric sea-salt including salt fog. In U. S. Army Environmental Handbook, Vol II, Chapter 9 (1965).

EARTH SCIENCES DIVISION

Book Chapters (continued)

208. EVERETT, K. R. Slope movement and related phenomena. In the Environment of Cape Thompson, U. S. Atomic Energy Commission, Oak Ridge, Tenn. (1966).

Book Reviews

209. ROBISON, W. C. The quiet crisis, by Steward L. Udall. Geographic Review, 55(2):308-310 (April 1965).

Other Publications

210. Rainfall in Burma, R. E. HUKE. Geography Publications at Dartmouth, No 2, Contract No. DA19-129-QM-1966), 1965.
211. Trinchera distribution in the Sierra Madre Occidental, Mexico, T. M. GRIFFITHS and W. A. HOWARD. Publication in Geography, Technical Paper 66-1, University of Denver, Contract No. DA19-129-AMC-789(N), 1966.
212. Trinchera and physical environment along the Rio Gavilan, Chihuahua, Mexico, L. C. HEROLD. Publication in Geography, Technical Paper 65-1, University of Denver, Contract No. DA19-129-AMC-277(N), 1965.

FOOD DIVISION

Technical Reports

213. All purpose matrixes for compressed food bars, J. R. DURST, The Pillsbury Company, Contract No. DA19-129-AMC-2103. 66-1-FD (FD-37), January 1966 (AD 628377).
214. All purpose matrix for molded food bars, E. J. HEWITT, Evans R&D Corp., Contract No. DA19-129-AMC-2111. FD-14, August 1965 (AD 620935).
215. The basis of stability in lysine and arginine salts of unsaturated fatty acids, S. D. KOCH, A. A. HYATT, and DOLORES V. LOPIEKES, Monsanto Research Corporation, Contract No. DA19-129-QM-1992(N). FD-7, April 1965 (AD 617963).
216. Calculated internal radiation dose from ingestion of meat sterilized by electron irradiation, T. G. MARTIN. 66-26-FD (FD-38), April 1966.
217. A comparison of tenderness parameters in dehydrated meat, F. A. ANDREWS and C. E. UNDERWOOD, Bjorksten Research Labs., Contract No. DA19-129-AMC-2102(N). FD-25, September 1965 (AD 624306).
218. Determination of equivalence between sterilization process and commercial thermal process for cured meats, R. A. GREENBERG, B. O. BLADEL, and W. J. ZINGELMANN, Swift & Company, Contract No. DA19-129-QM-2008. FD-28, October 1965 (AD 625252).
219. Development of flexible packaged bread-type products including bread: Phase I & II - single and multiple stage processing methods, C. G. NORRIS and S. I. GREENBERG, The Pillsbury Company, Contract No. DA19-129-AMC-91(N). 66-30-FD (FD-40), February 1966 (AD 631689).
220. Development of food bars employing edible structural agents, H. E. NEWLIN and E. R. MORRIS, Midwest Research Institute, Contract No. DA19-129-QM-1984. FD-20, August 1965 (AD 620884).
221. Development of irradiation sterilized shelf-stable fish and seafood products, H. W. SCHULTZ, R. O. SINNHUBER, T. C. YU, and M. LANDERS, Oregon State University, Contract No. DA19-129-QM-1356. FD-16, August 1965 (AD 620675).
222. Development of a machine retrieval system for storage data on ration items, M. E. SHERRY, Charles W. Adams, Inc., Contract No. DA19-129-AMC-187(N). 66-22-FD (FD-42), April 1966 (AD 632581).

FOOD DIVISION

Technical Reports (continued)

223. Development of nutritionally defined metabolic diets for aerospace travel, H. HOLLENDER, H. A. DYMSZA, and MARY KLICKA, Air Force Systems Command, MIPR No. AMD-AM 4-40011. AMRL-TR-65-218, December 1965 (AD 635499).
224. Development of radiation sterilized fish items for armed forces feeding, R. O. SINNHUBER, Oregon State University, Contract No. DA19-129-AMC-155(N). FD-15, August 1965 (AD 619446).
225. Development of ready-to-eat ration type beef items, F. L. KAUFFMAN and J. W. HARLAN. Swift & Company, Contract No. DA19-129-QM-1897. FD-5, February 1965 (AD 613349).
226. Edible coatings for dried and compacted foods: Part I, M. S. COLE, Archer Daniels Midland Co., Contract No. DA19-129-AMC-102(N). 66-37-FD (FD-47), April 1966 (AD 633044), and Part II, 66-38-FD (FD-48), May 1966 (AD 634252).
227. Effects of radio-frequency irradiation on the enzymes of beef muscle tissue, S. NELSON, Melpar, Inc., Contract No. DA19-129-AMC-262(N). FD-33, December 1965.
228. Evaluation of freeze-dried chicken: Effects of cooking and deboning methods on costs and quality, F. E. WELLS, Midwest Research Institute, Contract No. DA19-129-AMC-116(N). FD-10, May 1965 (AD 619280).
229. Flavoring materials for high caloric food bars, E. J. HEWITT, Evans R&D Corp., Contract No. DA19-129-AMC-2113(X). FD-12, July 1965 (AD 619449).
230. Flavor precursors in meat, W. A. LANDMANN, O. F. BATZER, and A. T. SANTORO, American Meat Institute Foundation, Contract No. DA19-129-AMC-2114(X). FD-21, September 1965 (AD 620574).
231. Formulation and fabrication of food bars, J. R. DURST. The Pillsbury Company, Contract No. DA19-129-QM-1970 (016063). 66-29-FD (FD-39), February 1966 (AD 631996).
232. Fundamental aspects of meat texture, D. DEFELICE, ALINA SZCZESNIAK, D. GARDNER, E. FARKAS, and K. SLOMAN, General Foods Corporation, Contract No. DA19-129-QM-1844. FD-17, August 1965.

FOOD DIVISION

Technical Reports (continued)

233. Induced radioactivity in food and electron sterilization, R. A. MEYER. FD-6, April 1965 (AD 613950).
234. Infiltration of porous foods with high caloric, non-aqueous, edible materials, R. A. LAMPI, FMC Corporation, Contract No. DA19-129-AMC-84(N). 66-28-FD (FD-45), April 1966 (AD 632311).
235. Investigation of drying procedures for compacted foods, L. F. GINETTE, FMC Corporation, Contract No. DA19-129-AMC-228(N). 66-34-FD (FD-46), May 1966 (AD 633267).
236. Measurement of texture in frankfurters and luncheon meat, S. SIMON, J. FIELD, D. DIEBALL, and W. KRAMLICH, Visking Company, Contract No. DA19-129-QM-2015. FD-8, April 1965 (AD 619450).
237. Metabolic studies of energy dense compounds for aerospace nutrition, S. A. MILLER, H. A. DYMSZA, S. R. TANENBAUM, and S. A. GOLDBLITH. AMRL-TR-64-121, Air Force Systems Command, August 1965.
238. Methods of controlling fragmentation of dried foods during compression, N. I. ISHLER, Tronchemics Research, Inc., Contract No. DA19-129-AMC-2(X). FD-13, August 1965 (AD 623712).
239. Objective tests for use in the technology of compressed foods, E. R. MORRIS, Midwest Research Institute, Contract No. DA19-129-AMC-130(N). FD-26, September 1965 (AD 624869).
240. Oxidation changes affecting odor and flavor of freeze-dried meats, J. R. CHIPAULT and J. M. HAWKINS, University of Minnesota, Contract No. DA19-129-QM-1994. FD-11, May 1965 (AD 619440).
241. Resistance of microorganisms to ionizing radiation applied to foods, A. W. ANDERSON, Oregon State University, Contract No. DA19-129-QM-2035. FD-24, September 1965 (AD 621921).
242. The role of amino carboxylic compounds as oxidation inhibitors in dehydrated systems, M. KAREL and S. TANNENBAUM, Massachusetts Institute of Technology, Contract No. DA19-129-AMC-254(N). FD-36, December 1965 (AD 626176).

FOOD DIVISION

Technical Reports (continued)

243. Stable bread storable in collapsed state, C. A. KENNEDY, General Foods Corporation, Contract No. DA19-129-AMC-142(N). 66-32-FD (FD-41), April 1966 (AD 632580).
244. Storage life of frozen frankfurters, S. SIMON, W. KRAMLICH, L. DIEBALL, and R. YOTTER, Visking Company, Contract No. DA19-129-QM-1790. FD-34, November 1965 (AD 626178).
245. Studies of beef irradiation flavor using a concurrent radiation distillation technique, E. L. WICK, Massachusetts Institute of Technology, Contract No. DA19-129-AMC-99(N). FD-32, December 1965 (AD 624994).
246. Studies of the effect of compression on rate of attainment and final equilibrium relative humidity relationships of dehydrated foods, R. A. LAMPI, H. TAKAHASHI, JEAN LENNON, R. W. FARRIER, and C. A. EGELAND, FMC Corporation, Contract No. DA19-129-QMC-11(N). FD-9, April 1965 (AD 619448).
247. Studies of foam fractionation and application to lipoid materials, B. L. KARGER, Northeastern University, Contract No. DA19-129-AMC-302(N). 66-25-FD (FD-43), April 1966 (AD 631995).
248. Studies on means of controlling or inhibiting beef tissue enzyme systems, W. A. LANDMANN, American Meat Institute Foundation, Contract No. DA19-129-AMC-87(N). FD-23, September 1965 (AD 621849).
249. Study of the application of relative humidity and moisture vapor pressure measurements for the determination of the moisture content of dehydrated foods, A. BLOCK, F. E. ELLISON, and E. HEWITT, Evans R&D Corporation, Contract No. DA19-129-AMC-55 (N). FD-19, August 1965 (AD 620742).
250. Study of fat oxidation products with other food components, antioxidants and trapping agents to inhibit cross-linking of proteins, F. A. ANDREWS, D. A. THOMSON, AND C. E. UNDERWOOD, Bjorksten Research Laboratories, Contract No. DA19-129-AMC-71(N). FD-18, August 1965 (AD 620885).

FOOD DIVISION

Technical Reports (continued)

251. A study of chemical changes produced by heat and by irradiation of meat and meat fractions, W. A. LANDMANN, American Meat Institute Foundation, Contract No. DA19-129-QM-1972. FD-22, September 1965 (AD 620575).
252. A study of meat enzymes to determine means for their control, W. A. LANDMANN, American Meat Institute Foundation, Contract No. DA19-129-QM-1952. FD-4, January 1965 (AD 460118).
253. A study of the radiation-induced softening of plant tissues, Z. I. KERTESZ and L. M. MASSEY, JR., New York State Agricultural Experiment Station, Cornell University, Contract No. DA19-129-QM-1584. FD-27, October 1965 (AD 625483).
254. Ultra-high compression of dried foods, R. A. LAMPI, H. TAKAHASHI, J. LENNON, S. SIERRA, and R. F. BATTEY, FMC Corporation, Contract No. DA19-129-AMC-163(N). FD-35, November 1965 (AD 626193).

Journal Articles

255. ANDREWS, F., J. BJORKSTEN, F. R. TRENK, A. S. HENICK, and R. B. KOCH. The reaction of an autoxidized lipid with proteins. *J. Am. Oil Chem. Soc.*, 42:779 (1965).
256. BARRETT, F. F., R. K. BEQUETTE, H. E. ARCISZEWSKI, and M. A. BARMORE. Flour quality of the major Pacific Northwest wheat varieties. *Northwestern Miller*, 272(12):40-42 (1965).
257. BEQUETTE, R. K., F. F. BARRETT, H. E. ARCISZEWSKI, and M. A. BARMORE. Milling quality of the major Pacific Northwest wheat varieties. *Northwestern Miller*, 272(3):48-52 (1965).
258. CHANDLER, H. K., J. J. LICCIARDELLO, and S. A. GOLDBLITH. Effect of irradiation temperature on the radiosensitizing activity of vitamin K⁵. *J. Food Sci.*, 30(5):893 (September-October 1965).
259. DAOUST, D. R., H. M. EL-BISI, and W. LITSKY. Thermal destruction kinetics of a lactic streptococcal bacteriophage. *Appl. Microbiol.*, 13(3):478-485 (May 1965).

FOOD DIVISION

Journal Articles (continued)

260. HEIDELBAUGH, N. D., J. E. VANDERVEEN, M. V. KLICKA, and M. J. O'HARA. The study of man during a 56-day exposure to an oxygen helium atmosphere at 258 mm Hg total pressure: VIII Observations on feeding bite size foods. *J. Aerospace Med.*, 37:6 (June 1966).
261. HEILIGMAN, F. Storage stability of irradiated meats. *Food Technol.*, 19:114-116 (1965).
262. HOLLENDER, H. A. Technology of space foods. *Activities Report*, 17(1):19-31 (Spring, 1965).
263. JOSEPHSON, E. S. Recent progress in applying high doses of ionizing radiations to achieve shelf-stable foods. *Activities Report*, 17(2):95-102 (Fall, 1965).
264. KAPSALIS, J. G., M. DRIVER, K. R. JOHNSON, I. T. NII, and A. S. HENICK. Applications of reflectance spectrophotometry to the study of color stability of heat treated green peas. *Food Technol.*, 19:125-128 (July 1965).
265. MANDELS, MARY, and E. T. REESE. Inhibition of cellulases. *Annual Review Phytopathol.*, 3:85-102 (1965).
266. MASON, O. E., G. L. SCHULZ, P. H. KATZ, J. W. SZCZEBLOWSKI, and D. B. WESTCOTT. Packaging techniques - Development of flexibly-packaged, thermally-processed bakery products. *Activities Report*, 17(2):145 (Fall, 1965).
267. McGEACHIN, R. L., P. A. HAY (Univ. of Louisville Med. School), and P. A. PRELL. Comparison of salivary amylase levels in the human male and female. *Nature*, 208(5016):1211-12 (1965).
268. MEHLMAN, M. A., D. G. THERRIAULT, W. L. PORTER, G. S. STOEWSAND, and H. A. DYMSZA. Distribution of lipids in rats fed 1,3-butanediol. *J. of Nutrition*, 88:2 (February 1966).
269. MEHRLICH, F. P. Radiation preservation of foods. *Science*, 147(3665):1600-1603 (March 1965).
270. _____ Water resources for space ventures. *Activities Report*, 17(1):86-92 (Spring, 1965).

FOOD DIVISION

Journal Articles (continued)

271. PORTER, W. L., and K. V. THIMANN. Molecular requirements for auxin action. I. Halogenated indoles and indolacetic acid. *Phytochem.*, 4:229 (1965).
272. PREVITE, J. J., and H. M. EL-BISI. Biological properties of irradiated endotoxin. *Bact. Proc.*, 66:50 (1966).
273. ROWLEY, D. B., and H. S. LEVINSON. Changes of spores of *Bacillus megaterium* treated with thioglycolate. *Bact. Proc.*, 17 (1966).
274. STOEWSAND, G. S. Food requirements of the dog. *Dog World*, 50:26 (January 1965).
275. _____, H. A. DYMSZA, M. A. MEHLMAN, and D. G. THERRIAULT. Influence of 1,3-butanediol on tissue lipids of cold-exposed rats. *J. Nutrition*, 87:464 (December 1965).
276. STRASSER, J. A possibility to control the drying process during drying by sublimation in vacuum by means of measuring the partial pressure of non-condensable gases. *Vakuum Technik*, 14(7):181-185 (October 1965).
277. TUOMY, J. M. Development of dehydrated meat and fish salads for military use. *Food Technol.*, 19(46):50 (June 1965).
278. _____, J. FELDER, and R. L. HELMER. Relation of pork loin weight to shear-force values, panel scores, fat in lean meat and cutout percentages. *Food Technol.*, 20:174-176 (April 1966).

Technical Papers

279. ANDERSON, E. E. Advances in fruit and vegetable technology. U. S. Army Medical Service Veterinary School, Chicago, Ill., 16-17 June 1965.
280. _____ Army food research and development program. Joint Meeting, Commissioned Officers' Association and the U. S. Public Health Service Clinical Society, Boston, Mass., 8 March 1966.
281. _____ Development of experimental rations for the military. Masonic Meeting, Lexington, Mass., 11 March 1965.

FOOD DIVISION

Technical Papers (continued)

282. ANDERSON, E. E. Flavor update. Seminar. Northeast Section of the Institute of Food Technology, Cambridge, Mass., 16 November 1965.
283. _____ Foods in the space age. Christian Women's Club of Boston, Newton, Mass., 11 January 1966.
284. _____ and A. W. ANTI. Space food development. Massachusetts Dairy Technology Society, Inc., Framingham, Mass., 7 February 1966.
285. _____ and D. E. WESTCOTT. Developments in military rations and space feeding. New England Confectioners' Association, Lynnfield, Mass., 22 March 1965.
286. ANTI, A. W. Development of space feeding systems. Framingham South High School Journalism Class, Framingham, Mass., 30 November 1965.
287. _____ Development of space foods. The New England Society of Fruit Processors and Preservers, Inc., Newton, Mass., 16 June 1966.
288. _____ Foods for space. Southboro Lions Club, Southboro, Mass., 10 March 1966.
289. _____ What's for dinner in space tonight? University of New Hampshire Chapter, Society of Sigma Xi, Durham, N. H., 19 May 1966.
290. _____, E. E. ANDERSON, and H. A. DYMSZA. Development of candies as spacefoods. Pennsylvania Manufacturing Confections Association, Lancaster, Pa., 27-29 April 1966.
291. _____, E. E. ANDERSON, and L. JOKAY. Edible coatings for spacefoods. Institute of Food Technologists, Kansas City, Mo., 17 May 1965.
292. _____, E. E. ANDERSON, and D. E. WESTCOTT. Further developments in edible coatings for space foods. Institute of Food Technologists, Portland, Ore., 24 May 1966.

FOOD DIVISION

Technical Papers (continued)

293. AUERBACH, E., and C. K. WADSWORTH. Irradiation-pasteurization of further processed poultry. Institute of Food Technologists, Portland, Ore., 25 May 1966.
294. BARRETT, F. F. Developments in cereal and bakery products for military feeding. U. S. Army Quartermaster School, Subsistence Officer Class, Fort Lee, Va., 16 February 1966.
295. _____ Research on instant bread and other cereal products for operational use. U. S. Army Quartermaster School, Subsistence Officer Class 66-1, Fort Lee, Va., 8 September 1965.
296. _____, M. A. BARMORE, and W. F. SOLLARS. An improved laboratory flour bleacher. American Association of Cereal Chemists, Kansas City, Mo., 25-29 April 1965.
297. _____ and W. F. SOLLARS. The high pH level and the high chlorine requirements of Pacific Northwest soft wheat flours. American Association of Cereal Chemists, Kansas City, Mo., 25-29 April 1965.
298. BISHOV, S. J., A. S. HENICK, and Y. MASUOKA. Fat quality and stability in dehydrated proteinaceous food mixes. Institute of Food Technologists, Portland, Ore., 26 May 1966.
299. BROCKMANN, M. C. Compression of foods. Military-Industry Conference, Research & Development Associates, Inc., Natick, Mass., 26-27 October 1965.
300. _____ Factors affecting the storage stability of freeze-dried foods. American Society of Heating, Refrigerating and Air Conditioning Engineers, Houston, Tex., 26 June 1966.
301. _____ Research on combat feeding systems. U. S. Army Quartermaster School, Fort Lee, Va., 1-2 June 1966.
302. BRYNJOLFSSON, A. Electron irradiation of foods and induced radioactivity. Military-Industry Conference, Research & Development Associates, Inc., Natick, Mass., 26-27 October 1965.
303. BUSTEAD, R. L., and J. M. TUOMY. Food quality design for Gemini and Apollo space programs. Technical Conference, American Society for Quality Control, New York, N. Y., June 1966.

FOOD DIVISION

Technical Papers (continued)

304. DYMSZA, H. A. Diet and intestinal microflora interrelationships in the gnotobiotic rat. Federation of American Societies for Experimental Biology, Atlantic City, N. J., 11 April 1966.
305. _____ High-energy diets from synthetic sources. Research & Development Associates, Inc., Chicago, Ill., 13 April 1966.
306. _____ High-energy synthetic compounds for future compact combat rations. Army Science Conference, West Point, N. Y., 14 June 1966.
307. _____ Influence of intestinal microflora and diet on weight gain and tissue cholesterol of gnotobiotic rats. Federation of American Societies for Experimental Biology, Atlantic City, N. J., April 1965.
308. _____ Some new trends in nutrition and food science. Annual Tri-State Conference of Vocational Agricultural Teachers, Amherst, Mass., 29 June 1966.
309. EL-BISI, H. M. Impact of microbiology upon man's food resources. Research & Development Associates, Inc., Chicago, Ill., 12-13 April 1966.
310. _____ Microbiological aspects of food irradiation. Ak-Sar-Ben Chapter, Institute of Food Technologists, Omaha, Neb., 14 April 1966.
311. _____ Microbiological requirements of space food prototypes. Research & Development Associates, Inc., Denver, Colo., 6-8 April 1965.
312. _____ Progress in botulism research. Interagency Botulism Research Coordinating Committee, Robert A. Taft Engineering Center, Cincinnati, Ohio, 31 March 1966.
313. _____ Salmonellosis control in military procurement. Symposium on Destruction of Salmonellae, Western Regional Research Laboratory, Albany, Calif., 9-11 March 1966.
314. _____ Sense in sanitation. Annual Food Management Seminar, University of Massachusetts, Amherst, Mass., 26-27 January 1966.

FOOD DIVISION

Technical Papers (continued)

315. GARDNER, D. S., C. K. WADSWORTH, and K. F. MacQUEEN. The effect of low-temperature gamma irradiation on cooking time of dehydrated diced and sliced potatoes. Institute of Food Technologists, Portland, Ore., 25 May 1966; Canadian Institute of Food Technologists, Toronto, Ontario, 15-17 June 1966.
316. GINNETTE, L. F., R. W. FARRIER, and M. C. BROCKMANN. Compact foods by two-stage drying and compression. Institute of Food Technologists, Portland, Ore., 25 May 1966.
317. GRECZ, N., A. A. WALKER, ABE ANNELLIS, and D. BERKOWITZ. Effect of temperature and size of initial spore inoculum on radiation D_{10} values of Clostridium botulinum. American Society for Microbiology, Atlantic City, N. J., 25-29 April 1965.
318. HARLAN, J. W., F. L. KAUFFMAN (Swift & Company), and F. HEILIGMAN.. Effects of radiation temperature on organoleptic, physical and chemical properties of beef. American Chemical Society, Atlantic City, N. J., 16 September 1965.
319. HEIDELBAUGH, N. D., J. E. VANDERVEEN, M. V. KLICKA, and M. J. O'HARA. The study of man during a 56-day exposure to an oxygen helium atmosphere at 258 mm Hg total pressure. VIII. Observations on feeding and bite-size foods. Aerospace Medical Association, Las Vegas, Nev., 18-21 April 1966.
320. HEILIGMAN, F. Radiation preservation of foods. American Legion. Millis, Mass., 14 September 1965.
321. _____ and C. E. PHILLIPS. Acceptance of irradiated foods. Military-Industry Conference, Research & Development Associates, Inc., Natick, Mass., 26 October 1965.
322. _____ and C. K. WADSWORTH. Radiation-sterilization processing of chicken. Institute of Food Technologists, Kansas City, Mo., 18 May 1965.
323. _____ and E. WIERBICKI. Preservation of foods by ionizing radiation. Third Annual Yankee Conference, National Association of Sanitarians, Cranston, R. I., 17 September 1965.
324. HOLLENDER, H. A. Dehydrated food and other relevant research. NAS-NRC Panel on Space Nutrition, Ames Research Center, Moffett Field, Calif., 16-18 November 1965.

FOOD DIVISION

Technical Papers (continued)

325. HOLLENDER, H. A. Development of space foods. Congregational Church, Needham, Mass., 7 January 1966; Pilgrim Fellowship Church Group, Holliston, Mass., 20 March 1966; and Baptist Youth Fellowship, Holliston, Mass., 3 April 1966.
326. Factors affecting the storage stability of freeze-dried foods. American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., Houston, Tex., 24-27 January 1966.
327. Rations. Law Enforcement and Security Officers Group of Boston, Natick, Mass., 20 May 1965.
328. Technology of space foods. Research & Development Associates, Inc., Denver, Colo., 6-8 April 1965.
329. H. A. DYMSZA, and P. A. LACHANCE. Development of nutrient defined metabolic diets for space feeding. Institute of Food Technologists, Kansas City, Mo., 16-20 May 1965.
330. JARRETT, R. D. Radiation dosimeters suitable for use with high intensity radiation sources. Nuclear Science Symposium, University of North Carolina, Raleigh, N. C., 6 May 1965.
331. Radiation dosimetry in relation to high intensity radiation sources. American Chemical Society, Atlantic City, N. J., 16 September 1965.
332. JOHNSON, K. R. Combat feeding systems and current advances in food research. U. S. Army Quartermaster School, Subsistence Officer Class 65-1, Fort Lee, Va., May 1965.
333. Food changes in the armed forces. Western New York Apple and Cherry Growers Association, Inc., Rochester, N. Y., 13 January 1966.
334. A. E. GUEST, and T. R. SCHMIDT. Seasoning impregnation of vegetables prior to dehydration. Institute of Food Technologists, Kansas City, Mo., 17 May 1965.
335. JOSEPHSON, E. S. Advances in food technology. Business and Professional Women's Club, Framingham, Mass., 10 March 1965.

FOOD DIVISION

Technical Papers (ccntinued)

336. JOSEPHSON, E. S. Department of the Army food irradiation program. Military-Industry Conference, Research & Development Associates, Inc., Natick, Mass., 26 October 1965.
337. Discussion and Summary, Symposium - Radiation Preservation of Food, Institute of Food Technologists, Kansas City, Mo., 19 May 1965.
338. Food preservation. Topical Meeting on Large Scale Production and Application of Radioisotopes, American Nuclear Society, Augusta, Ga., 22 March 1966.
339. Israel through the eyes of a tourist; through the eyes of a scientist. Bay State Lodge, B'nai B'rith, Temple Beth Am, Framingham, Mass., 5 December 1965.
340. Physical aspects of food radiation technology. Boston Medical Physics Group and New England Chapter, American Association of Physicists in Medicine, Natick, Mass., 7 December 1965.
341. Radiation preservation of foods. Garden City Lodge, A.F. & A.M., Newtonville, Mass., 14 January; Boston Chapter, Institute of Electrical and Electronics Engineers, Lexington, Mass., 6 May; ZONTA Club, Waltham, Mass., 1 November 1965; and Staff Dietitians, Clinical Center, National Institutes of Health, Bethesda, Md., 28 February 1966.
342. Radiation preservation of foods in the United States. Soreq Nuclear Research Centre, Yavne, Israel, 25 June 1965.
343. Simplified procedures for obtaining clearance of foods preserved by ionizing energy. International Symposium on Food Irradiation, Karlsruhe, Germany, 6-10 June 1966.
344. Thoughts for food. Maryland-District of Columbia-Delaware Hospital Association, Washington, D. C., 10 November 1965.
345. KILMORE, M. A. Water requirements for running in rats. Federation of American Societies for Experimental Biology, Atlantic City, N. J., 11 April 1966.
346. KLICKA, M. V. Combat feeding system and current advances in food research. U. S. Army Quartermaster School, Fort Lee, Va., 9-10 November 1965.

FOOD DIVISION

Technical Papers (continued)

347. KLICKA, M. V. Development of space foods. Holliston Boy Scouts, Holliston, Mass., 14 June; 4th International Congress of Dietetics, Stockholm, Sweden, 12-16 July; Home Economics Unlimited, Rockville Center, Long Island, N. Y., 15 September; West Suburban YWCA Group, South Natick, Mass., 28 October; Naval Reserve Research Co. 1-1, Boston, Mass., 6 December 1965; Holliston Child Group, Holliston, Mass., 2 March; Natick Rotary Club, Natick, Mass., 12 April; PTA, Johnson School, Natick, Mass., 14 February; Framingham State College, Framingham, Mass., 30 April; and Parents Without Partners Group, Framingham, Mass., 24 April 1966.
348. New developments in military rations and space foods. Eastern Massachusetts Home Economics Association, Everett, Mass., 19 January 1966.
349. New military rations and space feeding. Rhode Island Dietetic Association, Providence, R. I., 21 September 1965.
350. Present and future rationing concepts. U. S. Army Transportation School, Fort Eustis, Va., 15 September 1965.
351. Space feeding. Natick Chapter of Hadassah, Natick, Mass., 4 October 1965.
352. Space food developments. Maynard Rotary Club, Maynard, Mass., 15 February 1966.
353. Space foods. Law Enforcement Security Officers Group of Boston, Natick, Mass., 20 May 1965.
354. LEE, F. H. The new future of dehydrated foods. Home Economics Class, Simmons College, Boston, Mass., 12 April 1966.
355. LEGRIS, G. J. Development of military rations and space foods. Office of Naval Research, Chicago, Ill., 23 June 1966.
356. MARTIN, T. G., III. Health physics on preservation of food by ionizing radiation. Northeast Radiological Health Laboratory, U. S. Public Health Service, Winchester, Mass., 12 March 1965.
357. MASON, O. E. Problems in stability of military feeding systems. Framingham South High School, Framingham, Mass., 16, 20 May 1966.

FOOD DIVISION

Technical Papers (continued)

358. MATTHERN, R. O. Foods of the future. Northeast District, American Society for Testing Materials, Natick, Mass., 4 November 1965.
359. _____ Potential of algae as a food. Research & Development Associates, Inc., Chicago, Ill., 13 April 1966; Seminar, U. S. Army Natick Laboratories, Natick, Mass., 12 May 1966.
360. MEHRLICH, F. P. Advances in food preservation. World Association of Veterinary Food Hygienists, Lincoln, Neb., 25-30 July 1966.
361. _____ Applications of new technologies in foods. New York State Dietetic Association, Rochester, N. Y., 28-30 April 1965.
362. _____ Around the corner. Ohio State Dietetic Association, Dayton, Ohio, 13 May 1966.
363. _____ Food irradiation - an eye to the future. Univ. of North Carolina Chapter, Society of Sigma Xi, Raleigh, N. C., 12 May 1965.
364. _____ Food's role in human affairs. Association of College and Univ. Housing Officers, University Park, Pa., 25-29 July 1965.
365. _____ The U. S. Army food irradiation program. International Symposium on Food Irradiation, Karlsruhe, Germany, 9 June 1966.
366. _____ Water, water everywhere - but where? Research & Development Associates, Inc., Chicago, Ill., 12 April 1966.
367. _____, O. P. SNYDER, and G. SHULTS. Cryogenics in food irradiation. American Institute of Chemical Engineers, Minneapolis, Minn., 26-29 September 1965.
368. NANZ, R. A., P. A. LACHANCE (NASA), and M. V. KLICKA. Food consumption on Gemini Four, Five and Seven. Aerospace Medical Association, Las Vegas, Nev., 18-21 April 1966.
369. PORTER, W. L., A. S. HENICK, and M. P. CLIFFORD. The autoxidative contraction of linoleic acid at a gas-water interface. American Oil Chemists Society, Los Angeles, Calif., 25 April 1966.

FOOD DIVISION

Technical Papers (continued)

370. PRATT, G. B., L. E. KNEELAND, F. HEILIGMAN, and J. J. KILLORAN. Irradiation induced gases in packaged foods. I. Identification and measurements. Institute of Food Technologists, Portland, Ore., 25 May 1966.
371. PREVITE, J. J. Biological effects of irradiated endotoxin. Pioneering Research Division Biology Seminar, U. S. Army Natick Laboratories, Natick, Mass., April 1966.
372. _____ Biological properties of irradiated endotoxins. Leo F. Rettger Society, University of Massachusetts, Amherst, Mass., April 1966.
373. _____ and H. M. EL-BISI. Biological properties of incubated endotoxins. American Society for Microbiology, Los Angeles, Calif., May 1966.
374. _____ and H. M. EL-BISI. Effects of radiation on bacterial endotoxins. American Society of Microbiology, Atlantic City, N. J., 25-29 April 1965.
375. PHILLIPS, C. E. Radiation preservation of foods. Radiology Class, Boston University, Boston, Mass., 15 February and 16 June 1965.
376. SANTORO, L. A. Cortisone and exhaustive running times of dogs and rats. Federation of American Societies for Experimental Biology, Atlantic City, N. J., 11 April 1966.
377. SCHMIDT, T. R. Foods of the future. Simmons College Club of Wellesley and Needham, Newton, Mass., 17 March 1966.
378. _____ and K. R. JOHNSON. Development of a freeze-dehydrated potato patty. Institute of Food Technologists, Portland, Ore., 23 May 1966.
379. SECRIST, J. L. Development of space foods. U. S. Naval Composite Company 1-3, Boston, Mass., 6 June 1966.
380. SHULTS, G. W., C. K. WADSWORTH, and E. WIERBICKI. Development of irradiated beef. II. Effect of irradiation temperature on sensory quality and consumer preference. Institute of Food Technologists, Portland, Ore., 25 May 1966.

FOOD DIVISION

Technical Papers (continued)

381. SINNHUBER, R. O., M. K. LANDERS, T. C. YU (Oregon State University), M. SIMON, and F. HEILIGMAN. The development of radiation-sterilized seafood products. I. Enzyme inactivated cod and halibut patties. International Symposium on Food Irradiation. Karlsruhe, Germany, 6-10 June 1966.
382. STOEWSAND, G. S. The influence of dietary fat levels and 1,3-butanediol on tissue lipids in cold exposed rats. Federation of American Societies for Experimental Biology, Atlantic City, N. J., April 1965.
383. _____ Plasma lipid changes in exercised dogs fed 1,3-butanediol. Federation of American Societies for Experimental Biology, Atlantic City, N. J., 12 April 1966.
384. STRASSER, J. The importance of the water vapor permeability coefficient in freeze drying. Institute of Food Technologists, Portland, Ore., 25 May 1966.
385. _____ Physical factors influencing the rate of sublimation and the transport of water vapor through porous solids during the freeze-drying process. Society for Cryobiology, Madison, Wisc., 4 August 1965.
386. _____ Status and trends in food processing techniques of military interest. Military-Industry Meeting, Koblenz, Germany, 26 April 1966.
387. TOWNSEND, M. M. Your future in convenience foods. Middlebury Alumnae Association, Framingham, Mass., 19 October 1965.
388. TUOMY, J. M. Freeze dehydration of foods. Veterinary Medicine Course in Nuclear and Unconventional Warfare, Washington, D. C., 10 May 1965.
389. _____, J. FELDER, and R. L. HELMER. Relation of pork loin weight to shear-force values, panel scores, fat in lean meat, and cut-out percentages. Institute of Food Technologists, Kansas City, Mo., 16-20 May 1965.
390. _____ and R. L. HELMER. Effect of freeze drying on the quality of the Longissimus loin muscle of pork. Institute of Food Technologists, Portland, Ore., 25 May 1966.

FOOD DIVISION

Technical Papers (continued)

391. WADSWORTH, C. K., and G. W. SHULTS. Low temperature irradiation of meat. Military-Industry Conference, Research & Development Associates, Inc., Natick, Mass., 26 October 1965.
392. _____, E. WIERBICKI, and E. S. JOSEPHSON. Pilot meat and poultry irradiation-sterilization facility. I. Food technology requirements pertinent to design. Institute of Food Technologists, Portland, Ore., 25 May 1966.
393. _____, E. WIERBICKI, and E. S. JOSEPHSON. Pilot plant meat and poultry irradiator. I. Food technology requirements pertinent to design. Institute of Food Technologists, Portland, Ore., 25 May 1966.
394. WELLS, F. E., O. B. GERRISH (Midwest Res. Inst.), K. R. JOHNSON, and E. P. SCHERTZ. Effects of freeze-drying and storage on survival of bacteria in foods. Institute of Food Technologists, Kansas City, Mo., 17 May 1965.
395. WESTCOTT, D. E. Development of flexibly-packaged thermally processed bakery products. Military-Industry Conference, Research & Development Associates, Inc., Natick, Mass., 26 October 1965.
396. _____ Developments in military rations and space feeding. Mohawk Valley Institute of Food Technologists, Utica, N. Y., 16 September 1965; American Chemical Society, Northeastern University, Boston, Mass., 4 November 1965.
397. _____, F. F. BARRETT, and P. E. DONOVAN. Development of coated leavening systems for instant bread mix. Institute of Food Technologists, Kansas City, Mo., 18 May 1965.
398. _____, O. E. MASON, G. L. SCHULZ, P. H. KATZ, and J. W. SZCZEBLOWSKI. Development of flexibly-packaged thermally processed bakery products. Institute of Food Technologists, Kansas City, Mo., 17 May 1965.
399. WHITE, V. M. A dollar well spent. Northeastern Section, American Society of Testing Materials, Natick, Mass., 4 November 1965.

FOOD DIVISION

Technical Papers (continued)

400. WHITE, V. M. Foods for the future. New England Gas Association, Boston, Mass., 22 January; Wellesley Professional Women's Club, Wellesley, Mass., 20 January; Massachusetts School Lunch Western Meeting, Belchertown, Mass., 19 April 1965; and Massachusetts Central State School Work Shop, Westboro, Mass., 22 April 1966.
401. _____ Foods for tomorrow. Community Nutrition Council, Needham, Mass., 15 March 1966.
402. _____ The forward look in food processing and food products. New England Assembly, Boston, Mass., 28 March 1966.
403. _____ The freeze-drying process, a step forward in food processing. Food Management Seminar, University of Massachusetts, Amherst, Mass., 27 January 1966.
404. WIERBICKI, E. Changing trends in meat marketing. Radiation preservation processing of foods. FMC, American Viscose Division, Lansing, Mich., 13 April 1966.
405. _____ Preservation of foods by ionizing radiation. American Industrial Hygiene Association, New England Section, Auburn, Mass., 18 March 1965.
406. _____ and J. J. KILLORAN. Packaging for radiation-sterilized foods: Present status. Military-Industry Conference, Research & Development Associates, Inc., Natick, Mass., 26 October 1965.
407. _____, M. O. WARNECKE, C. E. PHILLIPS, and G. GIDDINGS. Development of radiation-sterilized hams. Institute of Food Technologists, Kansas City, Mo., 18 May 1965.

Book Chapters

408. BRYNJOLFSSON, A. The effect of ionizing radiation in producing sterility in pharmaceutical products with special reference to vegetative cells. In Ionizing Radiation and the Sterilization of Medical Products, Taylor & Francis Ltd., London (1965).

FOOD DIVISION

Book Chapters (continued)

409. BRYNJOLFSSON, A. Nuclear physical and mechanical properties and technology of shielding materials, materials for shieldings against neutrons and gamma rays. In Handbook of Engineering Compendium on Radiation Shielding, editor, A. Hoenig, Springer Verlag, Berlin (1965).
410. _____ Nuclear physical and mechanical properties and technology of shielding materials, materials for shielding against gamma rays. In Handbook of Engineering Compendium on Radiation Shielding, editor, A. Hoenig, Springer Verlag, Berlin (1965).
411. EL-BISI, H. M. Principles of microbiological safety and stability of radiation-sterilized foods. In Radiation Preservation of Foods, National Academy of Sciences--National Research Council, Washington, D. C. (1965).
412. HOLM, N. W., and R. D. JARRETT. An evaluation of dosimetry procedures applicable for use in food irradiation. In Radiation Preservation of Foods, National Academy of Sciences--National Research Council, Washington, D. C. (1965).
413. WIERBICKI, E., M. SIMON, and E. S. JOSEPHSON. Preservation of meats by sterilizing doses of ionizing radiation. In Radiation Preservation of Foods, National Academy of Sciences--National Research Council. Washington, D. C. (1965).

Other Publications

414. BRYNJOLFSSON, A. Radiation sterilization of pharmaceutical products with special reference to the most radiation resistant vegetative cells. P. Hansens Bogtrykkeri A/S - Copenhagen, Tidende Nr. 22 (1965).
415. HOLLENDER, H. A. Discussion: Preparation, handling, and storage of foods for present space projects. NASA-NAS Conference on Nutrition in Space and Related Waste Problems, NASA SP-70, 65-70 (April 1965).
416. JOSEPHSON, E. S. Statement. In Hearings before the Subcommittee on Research, Development, and Radiation of the Joint Committee on Atomic Energy, Congress of the United States, Superintendent of Documents, Washington, D. C. (1965).

FOOD DIVISION

Other Publications (continued)

417. JOSEPHSON, E. S. Department of the Army Food Irradiation Program. In Hearings before the Subcommittee on Research, Development, and Radiation of the Joint Committee on Atomic Energy, Congress of the United States, Superintendent of Documents, Washington, D. C. (1965).
418. KLICKA, M. V. Development of space foods. Svenska Ekonomiforests-standarinnors, Tidskrift No. 1 (January 1966).
419. MILLER, A. T., H. M. EL-BISI, F. M. SAWYER, and C. E. ESHBACH. Care and handling of prepared foods. Food Management Leaflet 9, Coop. Ext. Serv., Univ. of Mass. (January 1965).
420. MULVEY, P. F., J. A. CARDARELLI, R. A. MEYER, R. D. COOPER, and B. A. BURROWS. Sensitivity in Bremsstrahlung activation analysis for iodine determination. Proc. of IAEA, Vienna (1965).
421. MURPHY, C. J., R. D. COOPER, and R. A. MEYER. Servo systems for automatic dose control. Proc. IEEE, NS-12, 725 (1965).

MECHANICAL ENGINEERING DIVISION

Technical Reports

422. Air-supported tents for military use, C. J. MONEGO. ME-3, July 1965 (AD 475714).
423. An analysis of forks for ultra-lightweight rough terrain forklift truck, 4,000-1b (Sandpiper), V. J. DeNINNO. MHE-3, October 1965.*
424. The biaxial stress-strain behavior of fabrics, C. J. MONEGO, ME-4, November 1965 (AD 625255).
425. Computer analysis of forklift truck stability when operating on side slopes under near static conditions, V. J. DeNINNO and D. J. UHERKA. 66-57-ME (MHE-12), June 1966.
426. Evaluation of caterpillar articulating vehicle 966B (XAF 1052), W. F. PROUTY. 66-51-ME (MHE-10), May 1966 (AD 485144).*
427. Evaluation of truck, forklift, Baker 4,000-1b capacity, gasoline-engine driven, J. R. PETERS. 66-43-ME (MHE-9), May 1966 (AD 485479).*
428. Evaluation of truck, forklift, gasoline-powered, solid-rubber-tired, hydrostatic drive, P. E. CRAIG. 66-60-ME (MHE-13), June 1966.*
429. Evaluation of truck, forklift, gasoline-powered, for use in ammunition demolition areas, P. E. CRAIG. 66-59-ME (MHE-11), June 1966.*
430. Evaluation of truck, forklift, electric, 4,000-1b capacity, 36-volt, battery operated, S. B. VINDSBFRG. 66-17-ME (MHE-7), March 1966 (AD 480879).*
431. An evaluation of truck, hand, lift, pallet, manual-hydraulic, J. R. PETERS. MHE-2, August 1965 (AD 470920L).*
432. Evaluation of an improved electric drive for a 4,000-1b capacity electric forklift truck, R. N. WALSH. 66-15-ME (MHE-6), March 1966. (AD 482010L).*
433. Evaluation of trucks, lift, electronically guided by stock selectors, L. C. ROOT. 66-18-ME (MHE-8), March 1966 (AD 481107).*

MECHANICAL ENGINEERING DIVISION

Technical Reports (continued)

434. Evaluation of ramp, loading vehicle, adjustable, mechanically operated, 20,000-lb capacity, W. R. LAVOIE. 66-10-ME (MHE-4), March 1966 (AD 481134).*
435. Evaluation of load stabilizer attachments for forklift trucks, J. R. PETERS. 66-12-ME (MHE-5), March 1966 (AD 481104).*
436. Investigation of the performance of an open-flame convector, A. LEVIN. 66-50-ME, June 1966.*
437. Studies of quantitative correlation between bulk density and thickness of fabrics and their radar transmission characteristics, C. J. MONEGO. ME-2, February 1965 (AD 460111).

Technical Papers

438. LEVIN, A. The President's Executive Order and its meaning to the professional engineer. Massachusetts Society of Professional Engineers, Lenox, Mass., 14 May 1965.
439. MONEGO, C. J. The biaxial stress-strain behavior of fabrics, Fiber Society, Wilmington, Del., 8 October 1965.

PIONEERING RESEARCH DIVISION

Technical Reports

440. Anthropometric survey of the Armed Forces of the Republic of Vietnam, R. M. WHITE. Advanced Research Projects Agency, Washington, D. C., October 1964 (AD 458854).
441. Back-packing the Davy Crockett weapon system: Effect of carrying very heavy loads, J. M. McGINNIS, J. T. TAMBE, and R. F. GOLDMAN. EPT-1, March 1965 (AD 462486).
442. Food acceptance and preference research: An annotated bibliography, R. L. BELL, N. S. OSHINSKY, and J. WOLFSON. EPT-5, July 1965 (AD 633045).
443. Compatibility of Army arctic clothing, footwear, and handwear during contractors cold chamber tests of the TOW launcher and guidance systems, J. M. McGINNIS. EPR-8, October 1965.
444. Compatibility of Army arctic clothing, footwear, and handwear during simulated arctic operational test of LANCE missile system, J. M. McGINNIS. EPR-5, March 1965.
445. Cyanogenetic glycosides and manioc, R. C. CLAPP. Organic Chemistry Series 8, January 1965.
446. Fourteenth Conference on prevention of microbiological deterioration of military materiel. 66-47-PR, June 1966 (AD 484476).*
447. Long-term storage study of disinfectant, germicidal and fungicidal, F. PILLION, M. R. ROGERS, and A. M. KAPLAN. Microbiological Deterioration Series 8, December 1965 (AD 630432).
448. Proceedings of the Thirteenth Conference on prevention of microbiological deterioration of military materiel, July 1965 (AD 468572).*
449. A survey of some species of Aspergillus and Penicillium for production of aflatoxins and kojic acid, F. W. PARRISH, B. J. WILEY, E. G. SIMMONS, L. LONG, JR. Microbiological Series 20, September 1965 (AD 623335).
450. Thermal conductivity of polystyrene: Selected values, L. C. K. CARWILE and H. J. HOGE. 66-27-PR (TC-2), April 1966 (AD 632712).

PIONEERING RESEARCH DIVISION

Technical Reports (continued)

451. Thermal conductivity of soft vulcanized natural rubber: Selected values, L. C. K. CARWILE and H. J. HOGE. 66-49-PR (TC-3), June 1966.
452. USAF size extra-large flight helmet: Comparison of dimension specifications with anthropometric data, R. L. BURSE. EPR-6, January 1965.

Journal Articles

453. ALTENAU, A. G. Chromatography as an analytical tool. Ann. N. Y. Acad. Sci., 137:335 (20 January 1966).
454. _____, R. E. KRAMER, D. McADOC, and C. MERRITT, JR. Behavior of stationary phases at cryogenic temperatures. J. Gas Chromatography, 4:96 (March 1966).
455. ANDERSON, D. G., and G. WETTERMARK. Photoinduced isomerizations in anils. J. Am. Chem. Soc., 87:1433 (5 April 1965).
456. BALL, D. H. Preparation and some reactions of mono-O-ethylidene derivatives of D-galactose, methyl α - β and γ -D-galactopyranosides, and of D-threose. J. Org. Chem., 31:220 (January 1966).
457. BLUHM, A. L., J. A. SOUSA, and J. WEINSTEIN. Increased sensitivity of infrared absorption measurements by computing averaging. Appl. Spectroscopy, 18(6):188 (November 1964).
458. _____ and J. WEINSTEIN. Photochromic i-Aryl-2-nitroalkenes. J. Am. Chem. Soc., 87:5511 (5 December 1965).
459. CARWILE, L. C. K., and H. J. HOGE. Thermal conductivity of soft vulcanized natural rubber, selected values. Rubber Chem. Technol., 39(1):126 (February 1966).
460. CHALK, R. C., D. H. BALL, and I. LONG, JR. Selective mesylation of carbohydrates. II. Some mesyl esters of methyl α - and β -D-glucopyranosides, methyl α - and β -D-galactopyranosides, and of methyl α -D-mannopyranoside. J. Org. Chem., 31:1509 (May 1966).

PIONEERING RESEARCH DIVISION

Journal Articles (continued)

461. DAVIES, J. M. Input power determined from temperatures in simulated skin protected against thermal radiation. *J. of Heat Transfer, Trans. Amer. Soc. Mech. Eng., Series C*, 88(2):154 (May 1966).
462. _____ and A. LEVINE. An infrared image converter method of observing eye motion. *J. Opt. Soc. Amer.*, 55:1670 (December 1965).
463. _____, B. McQUE, and T. B. HOOVER. Heat transferred by decomposition products from cotton fabrics exposed to intense thermal radiation. *Textile Res. J.*, 35:757 (August 1965).
464. _____ and W. ZAGIEBOYLO. An integrating sphere system for measuring average reflectance and transmittance. *Appl. Optics*, 4:167 (February 1965).
465. DEGERING, E. F., G. J. CALDARELLA, and G. H. HAINES, JR. High energy electron irradiation of trihydroperfluoroalkyl acrylate monomers: Statistical evaluation of factor dependency. *J. Polymer Sci., Part A*, 3:3635 (October 1965).
466. EADES, E. D. M., D. H. BALL, and L. LONG, JR. Conversion of equatorial mesyl esters of carbohydrates to ethers with retention of configuration by reaction with alkoxides in dimethyl sulfoxide. *J. Org. Chem.*, 31:1159 (April 1966).
- 466a. _____, D. H. BALL, and L. LONG, JR. Methyl 2,6-anhydro-3, 4-di-O-methyl- α -D-mannoside. An intramolecular nucleophilic displacement of mesylate with inversion. *J. Org. Chem.*, 30:3949 (November 1965).
467. FREEDMAN, P. E. Habituation of alternation behavior. *J. Exper. Psychol.*, 69(6):613 (June 1965).
468. _____ Human maze learning as a function of stress and partial reinforcement. *Psychological Reports*, 18:975 (April 1966).
469. GIUTRONICH, J. E. Techniques for measuring spectral emittance of solids at high temperatures using a solar furnace. *Solar Energy*, 10(2):81 (April-June 1966).
470. GRAMERA, R., J. HEERAMA, and F. W. PARRISH. Distribution and structural form of phosphate ester groups in commercial starch phosphates. *Cereal Chem.*, 43(1):104 (January 1966).
471. HEINMETS, F. The effect of various biologic compounds on proton conductivity and activation energy in ice. *Ann. N. Y. Acad. Sci.*, 125:35, (13 October 1965).

PIONEERING RESEARCH DIVISION

Journal Articles (continued)

472. HOGE, H. J., and R. A. SEGARS. Choked flow: a generalization of the theory and some experimental data. *J. Am. Inst. Aeronautics and Astronautics*, 3(12):2177 (December 1965).
473. HOLMES, P. K., E. H. NAGS, and H. S. LEVINSON. Concurrent heat activation and suppression of Bacillus megaterium spore germination. *J. Bact.*, 90:827 (September 1965).
474. ISSENBERG, P., M. L. BAZINET, and C. MERRITT, JR. Magnetic tape recording of analytical data. *Anal. Chem.*, 37:1074 (July 1965).
475. KOERNER von GUSTORF, E., M. C. HENRY, and C. DiPIETRO. Photochemische umsetzung von $\text{Fe}(\text{CO})_5$ mit vinylchlorid, styrol, propylen und vinylathylather. *Zeitschr. fur Naturforschung*, 21b(1):42 (January 1966).
476. KRONMAN, M. J., R. BLUM, and L. G. HOLMES. Estimation of helicity of proteins from optical rotation dispersion measurements. *Biochem. and Biophys. Res. Comm.*, 19(2):228 (April 1965).
477. _____, R. BLUM, and L. G. HOLMES. Inter- and intramolecular interactions of α -lactalbumin. VI. Optical rotation dispersion properties. *Biochem.*, 5(6):1970 (June 1966).
478. _____, L. CERANKOWSKI, and L. G. HOLMES. Inter- and intramolecular interactions of α -lactalbumin. III. Spectral changes at acid pH. *Biochem.*, 4:518 (March 1965).
479. _____ and L. G. HOLMES. Inter- and intramolecular interactions of α -lactalbumin. IV. Location of tryptophan groups. *Biochem.*, 4:526 (March 1965).
480. LANG, D., C. TROTTIER, L. LONG, JR., and T. HASSELSTROM. Synthesis and biodegradability of isomeric sodium p-(Thia-n-dodecy1)benzenesulfonates. *J. Am. Oil Chem. Soc.*, 42(12):1096 (December 1965).
481. LEVINSON, H. S., and E. B. GARBER. Radiation dosimetry with sodium cacodylate and tris. *Nature*, 207(4998).751 (14 August 1965).

PIONEERING RESEARCH DIVISION

Journal Articles (continued)

482. LEVINSON, H. S., and M. T. HYATT. Sequence of events during Bacillus megaterium spore germination. *J. Bact.*, 91(5):1811 (May 1966).
483. LOCKHART, J. M. Effects of body and hand cooling on complex manual performance. *J. Appl. Psychol.*, 50:57-9 (February 1966).
484. MANDELS, G. R., R. VITOLS, and F. W. PARRISH. Trehalose as an endogenous reserve in spores of the fungus Myrothecium verrucaria. *J. Bact.* 90(6):1589 (December 1965).
485. MARGERUM, J. D., and J. A. SOUSA. Spectroscopic studies of substituted benzalanilines. *Appl. Spectroscopy*, 19:91 (March 1965).
486. MARKARIAN, H., H. F. ENOS, and J. J. PRATT, JR. Analysis of diethyltoluamide. *Soap and Chem. Specialties*, 41(10):94 (October 1965).
487. _____, H. F. ENOS, and J. J. PRATT, JR. Colorimetric and gas chromatographic measurements of dieldrin residues in wool - a comparison of analytical methods. *Amer. Dyestuff Reporter*, 55(12):31 (6 June 1966).
488. MENDELSON, J. M., and M. A. STEINBERG (Bureau of Commercial Fisheries Tech. Lab.), and C. MERRITT, JR. Techniques for collecting volatile components from haddock flesh for gas chromatographic analysis. *J. Food Sci.*, 31(3):389-394 (May-June 1966).
489. MERRITT, C., JR., P. ISSENBERG, M. L. BAZINET, B. N. GREEN, T. O. MERRON, and J. G. MURRAY. Fast scanning of high resolution mass spectra. *Anal. Chem.*, 37:1037 (July 1965).
490. _____, J. T. WALSH, M. L. BAZINET, R. E. KRAMER, and S. R. BRESNICK. Hydrocarbons in irradiated beef and methyl oleate. *J. Amer. Oil Chem. Soc.*, 42:57 (January 1965).
491. PARRISH, F. W., B. J. WILEY, E. G. SIMMONS, and L. LONG, JR. Production of aflatoxins and kojic acid by species of Aspergillus and Penicillium. *Appl. Microbiol.*, 14(1):139 (January 1966).

PIONEERING RESEARCH DIVISION

Journal Articles (continued)

492. PENNIMAN, F. G. A long-pulse method of determining thermal diffusivity. *Solar Energy*, 9:113 (July-September 1965).
493. _____, P. H. PETER, and J. M. DAVIES. A flux monitor for the Natick Solar Furnace. *Solar Energy*, 10(1):23 (January-March 1966).
494. PILLION, E. Gas chromatography of phenylphenols and chlorophenylphenols on a silicone nitrite column. *J. Gas Chromatography*, 3:238 (July 1965).
495. _____, M. R. ROGERS, and A. M. KAPLAN. Disinfectant analysis. *Soap and Chem. Specialties*, 42:90,94,99-100 (May 1966).
496. PILSWORTH, M. N., JR., and H. J. HOGE. Rate-dependent response of polymers to tensile impact. *Textile Res. J.*, 35(2):129 (February 1965).
497. REESE, E. T. Enzymatic hydrolysis of β -Glycans. *J. Fermentation Technol.*, 43(1):62-75 (1965).
498. _____ and G. AVIGAD. Purification of levansucrase by precipitation with levan. *Biochem. et Biophys. Acta*, 113(1):79 (11 January 1966).
499. _____ and Y. SHIBATA. β -Mannanases of fungi. *Can. J. Microbiol.*, 2(2):167 (April 1965).
500. ROBBINS, F. M., M. J. KRONMAN, and R. E. ANDREOTTI. Inter- and intramolecular interactions of α -lactalbumin. V. Amidination of α -lactalbumin. *Biochem. et Biophys. Acta*, 109:223 (27 September 1965).
501. ROTH, L. M. Control of reproduction in female cockroaches with special reference to Nauphoeta cinerea. *Psyche*, 71:198 (December 1964).
502. _____ and G. P. DATEO. A sex pheromone produced by males of the cockroach Nauphoeta cinerea. *J. Insect Physiol.*, 12(2):255 (February 1966).
503. _____ and G. P. DATEO. Uric acid storage and excretion by accessory sex glands of male cockroaches. *J. Insect Physiol.*, 11:1023 (August 1965).

PIONEERING RESEARCH DIVISION

Journal Articles (continued)

504. SARAVACOS, G. D. Freeze-drying rates and water sorption of model food gels. *Food Technol.*, 19:193 (April 1965).
505. _____ and M. N. PILSWORTH, JR. Thermal conductivity of freeze-dried model food gels. *J. Food Sci.*, 30(5):773 (September-October 1965).
506. _____ and R. M. STINCHFIELD. Effect of temperature and pressure on the sorption of water vapor by freeze-dried food materials. *J. Food Sci.*, 30(5):779 (September-October 1965).
507. SIMMONS, E. G. *Alternaria chrysantemi*. *Mycologia*, 57(1):140 (January-February 1965).
508. STROM, E. T. Electron spin resonance studies of substituent effects. Correlations with σ constants. *J. Amer. Chem. Soc.*, 88(9):2065 (5 May 1966).
509. _____ and A. L. BLUHM. Photochemical formation of dialkyl nitroxides from nitrosoalkanes. Evidence for fluorine p- π conjugation. *Chem. Comm.*, 4:115 (28 February 1966).
510. _____ and G. A. RUSSELL. The electron spin resonance spectra of 2,1,3-benzoxadiazole,-benzothiadiazole, and -benzoselediazole radical anions. Electron withdrawal by group VI elements. *J. Am. Chem. Soc.*, 87:3326 (5 August 1965).
511. _____, G. A. RUSSELL, and R. KONAKA. Spin densities in azo-type radical anions. *J. Chem. Phys.*, 42:2033 (15 March 1965).
512. _____, G. A. RUSSELL, and J. H. SCHOEB. Semidiones. II. Radical anions of 2,2'-fural, 2,2'-thenal and 3,3'-thenal. *J. Amer. Chem. Soc.*, 88(9):2004 (5 May 1966).
513. WEINSTEIN, J., A. BLUHM, and J. SOUSA. Substituent effects in photochromic nitrobenzylpyridines. *J. Org. Chem.*, 31(6):1983 (June 1966).
514. WETTERMARK, G. Photochemical enolization in ortho-alkyl substituted phenylalkyl ketones. *Photochem. and Photobiol.*, 4(3):621 (June 1965).

PIONEERING RESEARCH DIVISION

Journal Articles (continued)

515. WETTERMARK, G., E. BLACK, and L. DOGLIOTTI. Reactions of photochemically formed transients from 2-nitrotoluene. *Photochem. and Photobiol.*, 4:229 (March 1965).
516. _____ and A. KING. Reflectance spectroscopy for the characterization of photochromism in the crystalline state. *Photochem. and Photobiol.*, 4(3):417 (June 1965).
517. _____, M. E. LANGMUIR, and D. G. ANDERSON. Catalysis of the cis-trans isomerization of 2-hydroxy-5-methylazobenzene. *J. Amer. Chem. Soc.*, 87:476 (5 February 1965).
518. _____, J. WEINSTEIN, J. SOUSA, and L. DOGLIOTTI. Kinetics of cis-trans isomerization of para-substituted N-benzylidene-anilines. *J. Phys. Chem.*, 69:1584 (May 1965).
519. WHARTON, D. R. A., and M. L. WHARTON. The cellulase content of various species of cockroaches. *J. Insect Physiol.*, 11(10): 1401 (October 1965).
520. _____ and M. L. WHARTON. A hazard in gas chromatography. *J. Gas Chromatography*, 3:74 (February 1965).
521. _____, M. L. WHARTON, and J. E. LOLA. Blood volume and water content of the male American cockroach, Periplaneta americana L. Methods and the influence of age and starvation. *J. Insect Physiol.*, 11(4):391 (April 1965).
522. _____, M. L. WHARTON, and J. E. LOLA. Cellulase in the cockroach, with special reference to Periplaneta americana L. *J. Insect Physiol.*, 11(8):947 (August 1965).
523. _____, M. L. WHARTON, and J. E. LOLA. Weight and blood volume changes induced by irradiation of the American cockroach. *Radiation Res.*, 25:514 (July 1965).
524. WOLFSON, J. Planning and executing an effective agricultural promotion program. *J. Marketing*, 29:33 (January 1965).

Technical Papers

525. ALTENAU, A. G. Chromatographic methods of analysis. N. Y. Academy of Science, New York, N. Y., May 1965.

PIONEERING RESEARCH DIVISION

Technical Papers (continued)

526. ANDERSON, D. G., and G. WETTERMARK. Photoinduced isomerizations in anils. American Chemical Society, Detroit, Mich., April 1965.
527. ANGELINI, P., and C. C. WALTS. The relationship between volatile components and flavor of scrambled, precooked, freeze-dried eggs. Institute of Food Technologists, Portland, Ore., 26 May 1966.
528. BARTOSHUK, L. M. Taste of water in man. Eastern Psychological Association, New York, N. Y., April 1966.
529. CARWILE, L. C. K., and H. J. HOGE. Thermal conductivity of soft vulcanized natural rubber; selected values. Third Symposium on Thermophysical Properties, American Society for Mechanical Engineers, Lafayette, Ind., March 1965.
530. CHEN, F. C., and E. T. REESE. Proanthocyanidin from persimmon. Fourth International Symposium on Chemistry of Natural Products, International Union Pure and Applied Chemistry, Stockholm, Sweden, June 1966.
531. COOPER, R. D. G. Stereochemistry and synthesis of the paprika ketones. Seminar, Dow Chemical Co., Framingham, Mass., August 1965.
532. DAVIES, J. M. Input power determined from temperatures in simulated skin protected against thermal radiation. Eighth National Heat Transfer Conference, Amer. Soc. Mech. Engineers and Amer. Inst. Mech. Engineers, Los Angeles, Calif., August 1965.
533. EADES, E. D. M., D. H. BALL, and L. LONG, JR. Some reactions of carbohydrate secondary mesylates in methyl sulfoxide. American Chemical Society, Atlantic City, N. J., September 1965.
534. ENOS, H. F. Sample injection techniques, and semi-micro extraction techniques in gas chromatography. Gas Chromatography-Pesticide Workshop, University of Massachusetts Waltham Field Station, Waltham, Mass., May 1965.

PIONEERING RESEARCH DIVISION

Technical Papers (continued)

535. FLORENTINE, G. J. New auditory organ in the American cockroach Periplaneta americana (L). Entomological Society of America, New Orleans, La., December 1965.
536. GIUTRONICH, J. E. Techniques for measuring spectral emittance of solids at high temperatures using a solar furnace. Solar Energy Society, Phoenix, Ariz., March 1965.
537. HEINMETS, F. Analog computer analysis of cellular death and injury; and analog analysis of cellular growth and the model system. Second International Symposium on Quantitative Biology of Metabolism. Biologische Anstalt, Helgoland, Germany, September 1965.
538. HOLMES, P. K. Bacterial helophilism. Biology Department Seminar, Bowdoin College, October 1965.
539. _____ and H. O. HALVORSON. Properties of a purified malic dehydrogenase for an extreme obligate halophile. American Society for Microbiology, Atlantic City, N. J., April 1965.
540. _____ and H. S. LEVINSON. Microcycle sporogenesis of Bacillus megaterium in chemically defined media. American Society of Microbiology, Los Angeles, Calif., May 1966.
541. JACOBS, H. L. Osmotic regulation of food intake. Seminar, Dept. of Nutrition and Food Science, Massachusetts Institute of Technology, Cambridge, Mass., March 1966.
542. _____ The role of experience in the regulation of food intake. Symposium on the Chemical Senses and the Nutritive Processes. Cornell University, Ithaca, N. Y., 20 June 1966.
543. KLUNDT, I. L., D. H. BALL, and L. LONG, JR. Preparation of methyl 2,3-anhydro-L-erythrosides. American Chemical Society, Detroit, Mich., April 1965.
544. KRONMAN, M. J. Buried and exposed groups in proteins. Seminar, Dept. of Chemistry, University of Massachusetts, Amherst, Mass., May 1966.
545. _____ Fluorescence studies of the molecular conformation of α Lactalbumin. American Chemical Society, Atlantic City, N. J., September 1965.

PIONEERING RESEARCH DIVISION

Technical Papers (continued)

546. KRONMAN, M. J., and F. M. ROBBINS. The determination of buried and exposed groups in proteins. Middle Atlantic Regional Meeting, American Chemical Society, Philadelphia, Pa., February 1966.
547. _____ and Y. SHIBATA. Inactivation of yeast glyceraldehyde dehydrogenase. American Chemical Society, Atlantic City, N. J., September 1965.
548. LANGMUIR, M. Mechanism of fast reactions in hydroxy-aza compounds. Seminar, Dept. of Chemistry, Northeastern University, Boston, Mass., May 1965.
549. LEVINSON, H. S. Bacterial spore dormancy. Seminar, Department of Biological Sciences, University of the State of New York, Stony Brook, N. Y., October 1965.
550. _____ The bacterial endospore. Algonquin Regional High School, Northboro, Mass., April 1965; Natick High School, Natick, Mass., December 1965.
551. _____ Influence of sporulation medium on the germination properties of Bacillus megaterium spores. Seminar, Microbiology Department, University of Massachusetts, Amherst, Mass., February 1965.
552. _____ Spore germination. Microbiology Dept., New York University Medical School, New York, N. Y., May 1966; Kitchawan Research Laboratory, Brooklyn Botanic Garden, Ossining, N. Y., June 1966; Technical Center, General Foods Corporation, Tarrytown, N. Y., June 1966.
553. _____ and M. T. HYATT. Sequence of events during Bacillus megaterium spore germination-reexamination of the criteria for germination. American Society for Microbiology, Atlantic City, N. J., April 1965.
554. _____ and M. T. HYATT. Sequence of germination events during Bacillus megaterium spore germination. L. F. Rettger Society and Northeast Branch, American Society for Microbiology, Newport, R. I., October 1965.

PIONEERING RESEARCH DIVISION

Technical Papers (continued)

555. LONG, L., JR., R. C. CLAPP, F. H. BISSETT, and R. A. COBURN. Cyanogenetic glycosides of manioc. Fourth International Symposium, Chemistry of Natural Products, International Union of Pure and Applied Chemistry, Stockholm, Sweden, June 1966.
556. _____, C. H. TROTTIER, M. R. ROGERS, and A. KAPLAN. Biodegradable detergents. Army Science Conference, West Point, N. Y., June 1966.
557. McGRATH, W. D. The study of energy transfer processes by flash photolysis. Seminar, Physical Chemistry, Massachusetts Institute of Technology, Cambridge, Mass., September 1965.
558. MERRITT, C., JR. The analysis of volatile flavor compounds by gas chromatography and mass spectrometry. Northeast Section, American Chemical Society, Analytical Chemistry Group, Natick, Mass., May 1966.
559. _____ Chemical changes induced by irradiation in meats and meat components. International Symposium on Food Radiation, Karlsruhe, Germany, June 1966.
560. _____ Cryogenic gas chromatography colloquim. Chemistry Department, Northeastern University, Boston, Mass., December 1965.
561. _____ Gas chromatography and mass spectrometry in flavor research. Seminar, University of Cambridge, Cambridge, England, April 1965.
562. _____ The identification of the volatile compounds in ground roasted coffee by gas chromatography and mass spectrometry. Le Deuxieme Colloque International sur la Chimie des Cafés Verte Torrefies et Leurs Derives, Institute Francais du Café et du Cacao, Paris, France, May 1965.
563. _____ Separation and identification of complex mixtures by gas chromatography and mass spectrometry. Advanced Research Projects Agency, Natick, Mass., May 1965.
564. _____ Time-of-flight mass spectrometry in gas chromatography. Chicago Gas Chromatography Discussion Group, Chicago, Ill., January 1965.

PIONEERING RESEARCH DIVISION

Technical Papers (continued)

565. MERRITT, C., JR. The volatile compounds induced by irradiation in meats and meat components. Seminar, Dept. of Nutrition and Food Science, Massachusetts Institute of Technology, Cambridge, Mass., February 1966.
566. _____, A. G. ALTENAU, R. E. KRAMER, and D. J. McADOO. Behavior of stationary phases at cryogenic temperatures. Third International Symposium, Advances in Gas Chromatography, Houston, Tex., October 1965.
567. _____, P. ANGELINI, M. L. BAZINET, and D. J. McADOO. Irradiation damage in lipids and its effect on flavor. Symposium on flavor chemistry, American Chemical Society, Detroit, Mich., April 1965.
568. _____, P. ANGELINI, M. L. BAZINET, and D. J. McADOO. Volatile compounds induced by radiation in basic food substances. American Chemical Society, Atlantic City, N. J., September 1965.
569. OSHINSKY, N. Food acceptance testing at the U. S. Army Natick Laboratories. Nabisco Company, Fairlawn, N. J., April 1966.
570. PARRISH, F. Enzymic degradation of cereal glucans. Biochemistry Seminar, University of Massachusetts, Amherst, Mass., April 1966.
571. PENNIMAN, F. G., JR., P. H. PETER, and J. M. DAVIES. A flux monitor for the Natick Laboratories solar furnace. Solar Energy Conference, Phoenix, Ariz., March 1965.
572. REESE, E. T. Enzymatic hydrolysis of β -glucans. Kyusu University, Fukuoka, Japan; Meiji Seika Kaisha, Osaka, Japan; Symposium, Osaka, Japan; and Tokyo University of Education, Tokyo, Japan, November 1964; Centro de Investigaciones Biologicas, Madrid, Spain, March 1965; Symposium, Manchester, England, May 1965; Biochemistry Dept., Royal Free Medical School, London, England, July 1965; and Dept. of Botany, Imperial College, London, England, September 1965.
573. _____ The microbiology program at Natick, Mass. Department of Food Technology, Jadavpur University, Calcutta, India, November 1965.

PIONEERING RESEARCH DIVISION

Technical Papers (continued)

574. REESE, E. T. Pullulan synthesis and hydrolysis. Biochemistry Dept., Royal Free Medical School, London, England, October 1965.
575. ROBBINS, F., L. HOLMES, R. ANDREOTTI, and M. J. KRONMAN. Titration curve of α lactalbumin. Federation of American Society of Biological Sciences, Atlantic City, N. J., April 1965.
576. ROBERTSON, D. H., and C. MERRITT, JR. The analysis of polymer pyrolysates by means of cryogenic programmed temperature gas chromatography and rapid scanning mass spectrometry. Analytical Conference, Pittsburgh, Pa., February 1966.
577. ROSIE, D. M., and J. T. WALSH. Studies of the gas density cell. American Chemical Society, Atlantic City, N. J., September 1965.
578. ROTH, L. M. Control mechanisms in reproductive behavior in cockroaches. Institute of Cellular Biology, University of Connecticut, Storrs, Conn., March 1965; University of Massachusetts, Amherst, Mass., April 1965.
579. _____ The evolution of viviparity in Blattaria. Entomological Society of America, New Orleans, La., November-December 1965.
580. _____ Mechanisms controlling reproduction in cockroaches. Dept. of Zoology and Entomology, Ohio State University, Columbus, Ohio, February 1966.
581. _____ The patter of little feet. Seminar, Harvard University, Cambridge, Mass., January 1965.
582. SARAVACOS, G., and M. PILSWORTH. Thermal conductivity of freeze-dried model food gels. Institute of Food Technologists, Kansas City, Mo., May 1965.
583. SHIBATA, Y., and M. J. KRONMAN. Inactivation of glyceraldehyde 3-phosphate dehydrogenase. American Chemical Society, Atlantic City, N. J., September 1965.
584. STROM, E. T. Electron spin resonance studies of substituent effects in 1-phenyl-1,2-propandione radical-anions. American Chemical Society, Atlantic City, N. J., September 1965.

PIONEERING RESEARCH DIVISION

Technical Papers (continued)

585. STROM, E. T. Recent applications of electron spin resonance to physical organic chemistry. Seminar, DuPont Savannah River Laboratories, Aiken, S. C., May 1965; Seminar, University of Georgia, Athens, Ga., May 1965.
586. WEINSTEIN, J. Kinetic and spectroscopic studies on photochromic nitro compounds. Gordon Research Conference on Organic Photo-Chemistry, Tilton, N. H., July 1965.
587. _____, A. BLUHM, M. LANGMUIR, and E. T. STROM. Light attenuation by chemical means: Phototropism. Army Science Conference, West Point, N. Y., June 1966.
588. WICK, E. L., A. I. McCARTHY, M. MYERS, E. MURRAY, P. ISSENBERG, H. NURSTEN, and C. MERRITT, JR. Volatile banana components: A consideration of flavor and biochemistry. American Chemical Society, Detroit, Mich., April 1965.
589. WILLARD, J. J., and R. F. SCHWENKER, JR. Chemical bonding in resin-treated cotton. Textile Research Institute, New York, N. Y., April 1966.

Books

590. HEINMETS, F. Analysis of normal cell growth-model system formulation and analog computer studies. Plenum Press, New York (1965).

Book Chapters

591. DONNELLAN, J. E., JR., E. H. NAGS, and H. S. LEVINSON. Nucleic acid synthesis during germination and postgerminative development. In L. L. Campbell and H. O. Halvorson (edit.), Spores III, Amer. Soc. for Microbiology, Ann Arbor, Mich. (1965).
592. KAPLAN, A. M. Comments on the respirometric technique for assessment of microbiological susceptibility of materials. In Developments in Industrial Microbiology, Vol. 6, Chapter 20, Amer. Inst. of Biological Sciences, Washington, D. C. (1964).

PIONEERING RESEARCH DIVISION

Book Chapters (continued)

593. LEVINSON, H. S., and M. T. HYATT. Discussion: Kinetics of germination of aerobic bacillus spores. In L. L. Campbell and H. O. Halvorson (edit.), Spores III, Amer. Soc. for Microbiology, Ann Arbor, Mich. (1965).
594. MANDELS, G. R. Kinetics of fungal growth. In The Fungi, Chapter 25, G. C. Ainsworth and A. S. Sussman (edit.), Academic Press, New York (1965).
595. MANDELS, M., and E. T. REESE. Inhibition of cellulases. In Ann. Rev. Phytopathology, Vol. 3, J. G. Horsfall and K. F. Baker (edit.), Annual Reviews, Palo Alto, Calif. (1965).
596. ROGERS, M. R., and A. M. KAPLAN. A survey of the microbiological contamination in a military fuel distribution system. In Developments in Industrial Microbiology, Vol. 6, Chapter 8, Amer. Inst. of Biological Sciences, Washington, D. C. (1964).

Book Reviews

597. SIMMONS, E. P. Joly's Le Genre Alternaria. Mycologia, 58(2): 340 (April 1966).

Other Publications

598. CARWILE, L. C. K., and H. J. HOGE. Thermal conductivity of soft vulcanized natural rubber, selected values. Advances in thermophysical properties at extreme temperatures and pressures. Amer. Soc. Mech. Eng., p 320 (1965).
599. MERRITT, C., JR., and D. H. ROBERTSON. The identification of the volatile compounds in ground roasted coffee by gas chromatography and mass spectrometry. Proc. of the Second Colloque International sur la Chimie des Cafés verts, torréfiés et leurs dérivés, Paris, France, 3-7 May 1965 (1966).

INDEX TO AUTHORS
(Entry Number)

- Ahladas, J. P. 151
Akrep, J. F. 174
Alesi, A. L. 116
Altenau, A. G. 453, 454, 525, 566
Anderson, A. W. 241
Anderson, D. G. 455, 517, 526
Anderson, E. E. 279, 280, 281, 282, 283,
 284, 285, 290, 291, 292
Andreotti, R. E. 500, 575
Andrews, F. A. 217, 250, 255
Angelini, P. 527, 567, 568
Annellis, A. 317
Ansley, R. L. 175, 178, 193, 194, 195
Anti, A. W. 286, 287, 288, 289, 290, 291,
 292
Antkowiak, H. E. 25
Arciszewski, H. E. 256, 257
Assaf, J. E. 94, 117
Auerbach, E. 293
Avigad, G. 498
- Bishov, S. J. 298
Bissett, F. H. 555
Bjorksten, J. 255
Black, E. 515
Blade1, B. O. 218
Block, A. 249
Bloedow, F. H. 79
Bluhm, A. L. 457, 509, 513, 587
Blum, R. 476, 477
Bresnick, S. R. 490
Breyer, J. D. 161
Brierly, W. B. 189, 198, 207
Brockmann, M. C. 299, 300, 301, 316
Brown, E. J. 31, 32
Brynjolfsson, A. 302, 408, 409, 410,
 414
Burrows, B. A. 420
Burse, R. L. 452
Bustead, R. L. 303
Butterworth, G. A. M. 70
- Bailey, T. L. 118
Ball, D. H. 456, 460, 466, 466a, 533, 543
Ball, G. L. III 62
Barmore, M. A. 256, 257, 296
Barnes, W. J. 41
Barnicle, E. 28
Barrett, F. 256, 257, 294, 295, 296, 297,
 397
Barron, E. R. 118
Bartoshuk, L. M. 528
Battey, R. F. 254
Batzer, O. F. 230
Bazinet, M. L. 474, 489, 490, 567, 568
Bell, B. L. 442
Bennett, I. V. 186, 187, 188, 196, 197
Bequette, R. K. 256, 257
Berger, A. W. 56
Berliner, N. 36
Bernard, A. H. 45
Berkowitz, D. 317
- Caldarella, G. J. 465
Campbell, A. M. 44
Cannon, E. T. 88
Cardarelli, J. A. 420
Carwile, L. C. K. 450, 451, 459, 529,
 598
Cerankowski, L. 478
Chalk, R. C. 460
Chambers, J. V. 185
Chandler, H. K. 258
Chen, F. C. 530
Chiklis, C. K. 115
Chipault, J. R. 240
Christie, J. B. 53
Clapp, R. C. 445, 555
Clark, J. 202
Clifford, M. P. 369
Clough, S. 95, 114, 119, 147
Coburn, R. A. 555

- Cole, M. S. 226
 Coleman, R. A. 82
 Cook, E. W. 83, 96
 Cooper, R. D. G. 420, 421, 531
 Cottrill, E. 122
 Cowie, W. S. 132
 Craig, P. E. 428, 429
- Dalrymple, P. C. 199
 Daoust, D. R. 259
 Dateo, G. P. 502, 503
 Davidsohn, W. E. 97, 104, 120
 Davies, J. M. 461, 462, 463, 464, 493,
 532, 571
 Defelice, D. 232
 Degering, E. F. 465
 Delasanta, A. C. 109
 Dell, J. 181
 DeNinno, V. J. 423, 425
 Desper, C. R. 121
 Dieball, D. 236, 244
 DiPietro, C. 108, 475
 Dodd, A. V. 176, 190, 191, 200
 Dogliotti, L. 515, 518
 Donovan, P. E. 397
 Driver, M. 264
 Dunn, P. 77
 Durst, J. R. 213, 231
 Dymsza, H. A. 223, 237, 268, 275, 290,
 304, 305, 306, 307, 308,
 329
- Eades, E. D. M. 466, 466a, 533
 El-Bisi, H. M. 259, 272, 309, 310,
 311, 312, 313, 314,
 373, 374, 411, 419
- Egeland, C. A. 246
 Ellison, F. E. 249
 Enos, H. F. 486, 487, 534
 Erhardt, P. F. 114, 147
 Erickson, C. A. 83
 Eshbach, C. E. 419
 Evans, R. J. 44
 Everett, K. R. 208
- Farkas, E. 232
 Farrier, R. W. 246, 316
 Felder, J. 278, 389
 Field, J. 236
 Fiske, D. L. 36, 59
 Flanagan, J. H. 8, 9, 10
 Florentine, G. L. 535
 Foster, W. H., Jr. 82
 Fox, L. J. 45
 Freedman, P. E. 467, 468
 Fugeiso, L. E. 79
 Fujinaka, E. S. 73
- Gannon, J. A. 83
 Garber, E. B. 481
 Gardner, D. S. 232, 315
 Gerrish, O. B. 394
 Giddings, G. 407
 Ginette, L. F. 235, 316
 Gionfriddo, M. P. 33
 Giutronich, J. E. 469, 536
 Goddard, C. M. 99
 Goldblith, S. A. 237, 258
 Goldman, R. F. 441
 Görth, H. 84, 101
 Gramera, R. 470
 Gravina, S. C. 37, 51, 52, 66, 68
 Grecz, N. 317
 Green, B. N. 489
 Green, J. 122
 Greenberg, R. A. 218
 Greenberg, S. I. 219
 Griffis, C. B. 60, 71, 72, 102
 Griffiths, T. M. 211
 Guest, A. E. 334
 Gupta, R. P. 103
- Hadermann, A. F. 74, 138
 Haines, G. H. Jr. 465
 Haivorson, H. O. 539
 Harlan, J. W. 225, 318
 Hartouni, E. 50, 123
 Hasselstrom, T. 480
 Hastings, A. D. 192

- Hawkins, J. M. 240
 Hay, P. A. 267
 Heerama, J. 470
 Heidebaugh, N. D. 260, 319
 Heiligman, F. 261, 318, 320, 321,
 322, 323, 370, 381
 Heinmets, F. 471, 537, 590
 Helmer, R. L. 27, 389, 390
 Henick, A. S. 255, 264, 298, 369
 Henry, M. C. 60, 84, 97, 98, 99, 100,
 101, 102, 104, 105, 106,
 108, 112, 120, 124, 475
 Herold, L. C. 212
 Hewitt, E. J. 214, 229, 249
 Hills, K. 97, 105
 Hodgson, F. N. 62
 Hoge, H. J. 450, 451, 459, 472, 496,
 529, 598
 Hollender, H. 223, 262, 324, 325, 326,
 327, 328, 329, 415
 Holm, N. W. 412
 Holmes, L. G. 476, 477, 478, 479, 575
 Holmes, P. K. 473, 538, 539, 540
 Hook, J. C. 182
 Hoover, T. B. 463
 Howard, W. A. 211
 Huke, R. E. 210
 Hunter, R. S. 53
 Hyatt, A. A. 215
 Hyatt, M. T. 482, 553, 554, 593
- Iacono, V. D. 47, 54, 67, 91, 92
 Ishler, N. I. 238
 Issenberg, P. 474, 489, 588
- Jacobs, H. L. 541, 542
 Jarrett, R. D. 330, 331, 412
 Javier, V. S. 77
 Johnson, A. N. 64
 Johnson, K. R. 264, 332, 333, 334,
 378, 394
 Jokay, L. 291
 Josephson, E. S. 263, 335, 336, 337,
 338, 339, 340, 341,
 342, 343, 344, 392,
 393, 413, 416, 417
- Kaplan, A. M. 447, 495, 556, 592
 596
 Kapsalis, J. G. 264
 Karel, M. 242
 Karger, B. L. 247
 Katz, P. H. 266, 398
 Kauffman, F. L. 225, 318
 Kazan, J. 82
 Keith, R. C. 39
 Kennedy, C. A. 243
 Kennedy, S. J. 107, 125, 126,
 127, 128, 129,
 130, 131, 132
 Kertesz, Z. I. 253
 Killoran, J. J. 156, 159, 160
 161, 370, 406
- Kilmcre, M. A. 345
 King, A. 516
 Kllicka, M. V. 223, 260, 319,
 346, 347, 348,
 349, 350, 351,
 352, 353, 368
 Kliman, M. I. 116
 Klundt, I. L. 543
 Kneeland, L. E. 370
 Koch, R. B. 255
 Koch, S. D. 215
 Koerner, R. M. 180
 Koerner von Gustorf, E. 108, 475
 Konaka, R. 511
 Koza, W. H. 76
 Kramer, R. E. 454, 490, 566
 Kramlich, W. 236, 244
 Kronman, M. J. 476, 477, 478, 479,
 500, 544, 545, 546,
 547, 575, 583
 Kydd, A. R. 90
- Lachance, P. A. 329, 368
 Lackey, E. E. 184
 Laible, R. C. 103, 133
 Lampi, R. A. 234, 246, 254
 Landers, M. K. 221, 381
 Landmann, W. A. 230, 248, 251,
 252
 Landrum, B. F. 96
 Lang, D. 480

- Langmuir, M. E. 517, 548, 587
 Larcher, J. R. 86
 Larson, R. E. 90
 Lastnik, A. L. 134, 135
 Lavoie, W. R. 434
 Lee, F. H. 354
 Legris, G. J. 355
 Lennon, Jean, 246, 254
 Levin, A. 436, 438
 Levine, A. 462
 Levinson, H. S. 273, 473, 481, 482, 540,
 549, 550, 551, 552, 553
 554, 591, 593
 Lewis, W. R. 34
 Licciardello, J. J. 258
 Lieske, B. J. 201
 Lipman, A. L. 132
 Litsky, W. 259
 Lockhart, J. M. 483
 Lola, J. E. 521, 522, 523
 Long, L. Jr. 449, 460, 466, 466a, 480,
 491, 533, 543, 555, 556
 Lopiekos, Dolores V. 215
 Lynch, F. deS. 80, 149
 Lynch, M. J. 29, 30

 MacDonald, J. L. 73
 MacQueen, K. F. 315
 Madnick, H. 63
 Mandels, Mary, 265, 595
 Mandels, G. R. 484, 594
 Mantz, W. M. 5, 6, 7
 Margerum, J. D. 485
 Markarian, H. 486, 487
 Martin, T. G. III 216, 356
 Maschi, A. P. 26
 Mason, M. 82
 Mason, O. E. 266, 357, 398
 Massey, L. M. Jr. 253
 Masuoka, Y. 298
 Matthern, R. O. 358, 359
 May, J. M. 206
 McAdoo, D. J. 454, 566, 567, 568

 McCarthy, A. I. 588
 McGeachin, R. L. 267
 McGinnis, J. M. 441, 443, 444
 McGrath, W. D. 557
 McIsaac, H. J. 136
 McQue, B. 463
 Mehlman, M. A. 268, 275
 Mehrlich, F. P. 269, 270, 360, 361,
 362, 363, 364, 365,
 366, 367
 Mendelsohn, J. M. 488
 Merola, A. P. 69
 Merritt, C. Jr. 454, 474, 488, 489,
 490, 558, 559, 560,
 561, 562, 563, 564,
 565, 566, 567, 568,
 576, 588, 599
 Merron, T. O. 489
 Meyer, R. A. 233, 420, 421
 Miles, T. D. 109
 Miller, A. T. 419
 Miller, S. A. 237
 Misaki, S. 75
 Monego, C. J. 422, 424, 437, 439
 Morris, E. R. 220, 239
 Mulvey, P. F. 420
 Murphy, C. J. 421
 Murray, E. 588
 Murray, G. 137
 Murray, J. G. 489
 Myers, M. 588

 Nags, E. H. 473, 591
 Nanz, R. A. 368
 Nebesky, E. A. 152, 153, 162, 163,
 164, 165, 166, 167,
 168
 Nelson, S. S. 74, 138, 227
 Newlin, H. E. 220
 Nii, I. T. 264
 Norris, C. G. 219
 Nursten, H. 588

O'Hara, M. J. 260, 319
Ohman, H. L. 177
Oliver, W. H. 85
Oshinsky, N. S. 442, 569
O'Sullivan, D. J. 155, 169
Palese, D. J. 170
Palmer, J. 123
Park, J. D. 86
Parrish, F. W. 449, 470, 484, 491, 570
Payne, G. O. 156
Penniman, F. G. 492, 493, 571
Perry, D. 75
Peter, P. H. 493, 571
Peters, J. R. 427, 431, 435
Peterson, E. 202
Peterson, M. S. 24, 165, 166
Phillips, C. E. 321, 375, 407
Pillion, E. 447, 494, 495
Pilsworth, M. N., Jr. 496, 505, 582
Pirog, J. A. 56
Podgett, C. D. 85
Porter, W. L. 268, 271, 369
Pratt, G. B. 370
Pratt, J. J., Jr. 486, 487
Previte, J. J. 272, 371, 372, 373, 374
Prouty, W. F. 426
Pustinger, J. V. 62

Ramsley, A. O. 69
Reese, E. T. 265, 497, 498, 499, 530,
572, 573, 574, 595
Relyea, D. I. 64
Rhodes, M. 114
Ricca, J. J. 61, 80, 149
Rinschler, R. A. 171
Riordan, C. T. 18, 19, 20, 21, 22, 23
Rizzo, F. J. 40, 44, 110, 111, 139,
140, 141, 142
Robbins, F. M. 500, 546, 575
Robertson, D. H. 576, 599
Robinson, W. C. 203, 209
Rogers, M. R. 447, 495, 556, 596
Root, L. C. 433

Rosie, D. M. 577
Roth, L. M. 501, 502, 503, 578,
579, 580, 581
Rowley, D. B. 273
Rubinate, F. J. 153, 154, 157,
167, 168, 172
Rudolph, G. 112
Rundle, A. S. 179
Russell, G. A. 510, 511, 512

Salyer, I.O.. 62
Santoro, A. T. 230
Santoro, L. A. 376
Saravacos, G. D. 504, 505, 506,
582
Sawyer, F. M. 419
Schertz, E. P. 394
Schmidt, T. R. 334, 377, 378
Schneider, N. S. 143, 144
Schoeb, J. H. 512
Schomer, J., 133
Schultz, H. W. 221
Schulz, G. L. 153, 154, 167, 168,
266, 398
Schwenker, R. F., Jr. 589
Sebring, R. E. 70
Secrist, J. L. 379
Sedor, D. G. 109
Segars, R. A. 472
Seligsberger, L. 113, 145, 146
Sheehan, L. J. 48, 81
Sherry, M. E. 222
Shibata, Y. 499, 547, 583
Shrager, H. 93
Shurtleff, C. W. 72
Shults, G. 367, 380, 391
Shuman, J. N. 27, 30
Sieling, D. H. 11, 12, 13, 14, 15,
16, 17
Sierra, S. 254
Sinnhuber, R. O. 221, 224, 381
Simmons, E. G. 449, 491, 507, 597
Simon, S. 236, 244, 381, 413

- Sloman, K. 232
 Smith, H. P. 64
 Snyder, O. P. 367
 Sollars, W. F. 296, 297
 Sousa, J. A. 457, 458, 485, 513, 518
 Spiegl, C. J. 156
 Stein, R. S. 95, 114, 147
 Steinberg, M. A. 488
 Stinchfield, R. M. 506
 Stoewsand, G. S. 268, 274, 275, 382, 383
 Strasser, J. 276, 384, 385, 386
 Strom, E. T. 508, 509, 510, 511, 512,
 584, 585, 587
 Stroschein L. 201
 Stump, E. C. 85
 Szczeblowski, J. W. 157, 266, 398
 Szczesniak, Alina, 232

 Takahashi, H. 246, 254
 Tambe, J. T. 441
 Tandon, J. 75
 Tanenbaum, S. R. 237, 242
 Tarrant, P. 75
 Therriault, D. G. 268, 275
 Thimann, K. V. 271
 Thomas, G. R. 116
 Thompson, D. A. 250
 Thompson, W. F. 204
 Townsend, M. M. 387
 Trenk, F. R. 255
 Tressler, D. K. 24
 Trottier, C. H. 480, 556
 Tuomy, J. M. 277, 278, 303, 388, 389,
 390

 Uherka, D. J. 425
 Underwood, C. E. 217, 250
 Uminski, E. A. 89
 Urbanek, J. P. 46, 55

 Valko, E. I. 115
 van Aartsen, J. J. 95, 114
 Vanderveen, J. E. 260, 319
 Vaughan, W. W. 1, 2, 3, 4
 Venetos, M. A. 158, 173, 174
 Windsberg, S. B. 430
 Vitols, R. 484
 Votta, F., Jr. 65

 Wadsworth, C. K. 293, 315, 322,
 380, 391, 392,
 393
 Waldron, E. T. 78, 87
 Walker, A. A. 317
 Walsh, J. T. 490, 577
 Walsh, R. N. 432
 Walts, C. C. 527
 Warnecke, M. O. 407
 Weiner, L. I. 48, 57, 81
 Weinstein, J. 457, 458, 513, 518,
 586, 587
 Weir, W. R. 42
 Weitzler, I. M. 35
 Wells, F. E. 228, 394
 Westcott, D. E. 285, 292, 395,
 396, 397, 398
 Wettermark, G. 455, 514, 515, 516,
 517, 518, 526
 Wharton, D. R. A. 519, 520, 521,
 522, 523
 Wharton, M. L. 519, 520, 521, 522,
 523
 White, R. M. 440
 White, V. M. 399, 400, 401, 402,
 403
 Wick, E. L. 245, 588
 Wierbicki, E. 161, 323, 380, 392,
 393, 404, 405, 406,
 407, 413
 Wilde, A. F. 61, 80, 148, 149
 Wiley, B. J. 449, 491

Willard, J. J. 589
Wilson, A. 58
Wesson, J. 442, 524
Wright, A. 75

Yelland, W. E. C. 41, 150
Yotter, R. 244
Yu, T. C. 221, 381

Zagieboylo, W. 464
Zinglemann, W. J. 218
Zinke, P. J. 183

DISTRIBUTION

Commanding General
US Army Weapons Command
ATTN: Tech Library
Rock Island, Illinois 61200

Commanding General
USA Test & Evaluation Command
ATTN: Tech Library
Aberdeen Proving Ground
Maryland 21005

Commanding General
US Army Nuclear Defense
Laboratory
Army Chemical Center
ATTN: Tech Library
Maryland 21005

Commanding General
United States Continental
Army Command
ATTN: Tech Library
Fort Monroe, Virginia 23351

Commanding General
USA Combat Development Command
ATTN: Tech Library
Fort Belvoir, Virginia 22060

Commanding General
US Army Mobility Command
ATTN: Tech Library
Warren, Michigan 48089

Commanding Officer
US Army Polar Research and
Development Center
ATTN: Tech Library
Fort Belvoir, Virginia 22060

Commanding General
US Army Electronics Research
and Development Laboratories
ATTN: Tech Info Div
Fort Monmouth, New Jersey 07703

Commanding Officer
US Army Materials Research
Agency
ATTN: Tech Library
Watertown, Massachusetts 02172

Commanding Officer
US Army Cold Regions Research
& Engineering Laboratories
ATTN: Tech Library
Hanover, New Hampshire 03755

Commanding Officer
US Army Human Engineering
Laboratories
Aberdeen Proving Ground
Maryland 21005

Commanding Officer
US Army Coating & Chem Labs
Aberdeen Proving Ground
ATTN: Tech Library
Maryland 21005

Director
US Army Engineer Research and
Development Laboratories
ATTN: Tech Document Ctr
Fort Belvoir, Virginia 22060

Director, Library
US Army War College
Carlisle Barracks
Pennsylvania 17013

Director
Army Technical Information
US Army Research Office
OCRD, Room 209A
Arlington, Virginia 22200

Commandant
US Army Quartermaster School
ATTN: Quartermaster Library
Fort Lee, Virginia 23801

DISTRIBUTION (cont'd)

Commandant
US Army Infantry School
ATTN: Tech Library
Fort Benning, Georgia 31905

Commandant of the Marine Corps
Headquarters Marine Corps
CODE AO4D
Washington, D. C.

Commander
US Army Chemical Research &
Development Lab
ATTN: Tech Library
Edgewood Arsenal, Md. 21010

Commander
US Army Biological Labs
ATTN: Tech Library
Fort Detrick
Frederick, Maryland 21701

Library
US Weather Bureau
Washington, D. C. 20235

Air Force Cambridge Research Labs
Laurence G. Hanscom Field
ATTN: CRMCLR, Res Library, Stop 29
Bedford, Massachusetts 01731

US Army Aviation School Library
Bldg 5313
Fort Rucker, Alabama

United States Dept of Agriculture
Division of Acquisitions
National Agricultural Library
Washington, D. C. 20250

US Atomic Energy Commission
Reports Section, Hqs Library
Mail Station G-017
Division of Tech Info
Washington, D. C. 20545

Redstone Scientific Information Center
US Army Missile Command
ATTN: Chf, Documents Section
Redstone Arsenal, Alabama 35808

US Atomic Energy Commission
Division of Tech Information
Extension
PO Box 62
Oak Ridge, Tennessee 37831

US Naval Research Laboratory
Code 6140
Washington, D. C. 20390

Chief, Bureau of Ships
Room 2510, Main Navy
Code 364A4
18th & Constitution Ave., NW
Washington, D. C. 20001

US Naval Applied Science Lab
Tech Library
Bldg 291, Code 9832
Naval Base
Brooklyn, New York 11251

US Army Command & Gen Staff
College
Library Division
Fort Leavenworth, Kansas 66027

Exchange and Gift Division
Library of Congress
Washington, D. C. 20540

US Army Materiel Command
Research Division AMCRD-RL
R&D Directorate
Bldg T-7
Washington, D. C. 20315

US Army Engineering Research
Development Laboratories
ATTN: STINFO Branch
Fort Belvoir, Virginia 22060

DISTRIBUTION (cont'd)

Library

US Naval Supply Research and
Development Facility
Naval Supply Center
Bayonne, New Jersey 07002

Reference Center Library

The Institute for Cooperative
Research

Eglin Facility

PO Box 1867

Eglin Air Force Base, Florida

NASA Scientific and Technical
Information Facility

ATTN: Acquisitions Branch
(S-AK/DL)

PO Box 33

College Park, Maryland 20740

Library

Southern Utilization R&D Div
Agricultural Research Service
US Department of Agriculture
PO Box 19687
New Orleans, Louisiana 70119

USA NLABS Liaison Office

ASDL-8

Wright-Patterson AFB, Ohio

NASA

Scientific & Technical Facility
PO Box 33
College Park, Maryland 20740

Internal

2 - Technical Library

5 - Military Liaison

20 - Technical Plans Office (for Defense Documentation Center)

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1 ORIGINATING ACTIVITY (Corporate author) US Army Natick Laboratories Natick, Massachusetts 01760		2a REPORT SECURITY CLASSIFICATION Unclassified
		2b GROUP

3 REPORT TITLE

BIBLIOGRAPHY OF TECHNICAL PUBLICATIONS AND PAPERS

4 DESCRIPTIVE NOTES (Type of report and inclusive dates)

January 1965 - June 1966

5 AUTHOR(S) (Last name, first name, initial)

6 REPORT DATE

August 1966

7a. TOTAL NO OF PAGES

68

7b. NO OF REFS

8a CONTRACT OR GRANT NO

9a. ORIGINATOR'S REPORT NUMBER(S)

b PROJECT NO

67-1

c

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)

d

10 AVAILABILITY/LIMITATION NOTICES

Distribution of this document is unlimited. Release to CFSTI is authorized.

11 SUPPLEMENTARY NOTES

12 SPONSORING MILITARY ACTIVITY

U. S. Army Natick Laboratories
Natick, Massachusetts 01760

13 ABSTRACT

A bibliographic listing of technical publications and papers by the personnel of the U. S. Army Natick Laboratories and its contractors for the period January 1965 through June 1966.

Unclassified
Security Classification

<p>14. KEY WORDS</p> <p>Research Reports Publications Development U. S. Army Natick Laboratories Bibliographies</p>	LINK A <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th>ROLE</th> <th>WT</th> </tr> </thead> <tbody> <tr> <td></td> <td>8</td> </tr> <tr> <td></td> <td>8</td> </tr> <tr> <td></td> <td>8</td> </tr> <tr> <td></td> <td>8</td> </tr> <tr> <td></td> <td>9</td> </tr> <tr> <td></td> <td>0</td> </tr> </tbody> </table>	ROLE	WT		8		8		8		8		9		0	LINK B <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th>ROLI</th> <th>WT</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	ROLI	WT											LINK C <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th>ROLE</th> <th>WT</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	ROLE	WT										
ROLE	WT																																								
	8																																								
	8																																								
	8																																								
	8																																								
	9																																								
	0																																								
ROLI	WT																																								
ROLE	WT																																								

INSTRUCTIONS

1. ORIGINATING ACTIVITY: Enter the name and address of the contractor, subcontractor, grantee, Department of Defense activity or other organization (corporate author) issuing the report.
- 2a. REPORT SECURITY CLASSIFICATION: Enter the overall security classification of the report. Indicate whether "Restricted Data" is included. Marking is to be in accordance with appropriate security regulations.
- 2b. GROUP: Automatic downgrading is specified in DoD Directive 5200.10 and Armed Forces Industrial Manual. Enter the group number. Also, when applicable, show that optional markings have been used for Group 3 and Group 4 as authorized.
3. REPORT TITLE: Enter the complete report title in all capital letters. Titles in all cases should be unclassified. If a meaningful title cannot be selected without classification, show title classification in all capitals in parenthesis immediately following the title.
4. DESCRIPTIVE NOTES: If appropriate, enter the type of report, e.g., interim, progress, summary, annual, or final. Give the inclusive dates when a specific reporting period is covered.
5. AUTHOR(S): Enter the name(s) of author(s) as shown on or in the report. Enter last name, first name, middle initial. If military, show rank and branch of service. The name of the principal author is an absolute minimum requirement.
6. REPORT DATE: Enter the date of the report as day, month, year; or month, year. If more than one date appears on the report, use date of publication.
- 7a. TOTAL NUMBER OF PAGES: The total page count should follow normal pagination procedures, i.e., enter the number of pages containing information.
- 7b. NUMBER OF REFERENCES: Enter the total number of references cited in the report.
- 8a. CONTRACT OR GRANT NUMBER: If appropriate, enter the applicable number of the contract or grant under which the report was written.
- 8b, 8c, & 8d. PROJECT NUMBER: Enter the appropriate military department identification, such as project number, subproject number, system numbers, task number, etc.
- 9a. ORIGINATOR'S REPORT NUMBER(S): Enter the official report number by which the document will be identified and controlled by the originating activity. This number must be unique to this report.
- 9b. OTHER REPORT NUMBER(S): If the report has been assigned any other report numbers (either by the originator or by the sponsor), also enter this number(s).
10. AVAILABILITY/LIMITATION NOTICES: Enter any limitations on further dissemination of the report, other than those imposed by security classification, using standard statements such as:
 - (1) "Qualified requesters may obtain copies of this report from DDC."
 - (2) "Foreign announcement and dissemination of this report by DDC is not authorized."
 - (3) "U. S. Government agencies may obtain copies of this report directly from DDC. Other qualified DDC users shall request through ."
 - (4) "U. S. military agencies may obtain copies of this report directly from DDC. Other qualified users shall request through ."
 - (5) "All distribution of this report is controlled. Qualified DDC users shall request through ."

If the report has been furnished to the Office of Technical Services, Department of Commerce, for sale to the public, indicate this fact and enter the price, if known.
11. SUPPLEMENTARY NOTES: Use for additional explanatory notes.
12. SPONSORING MILITARY ACTIVITY: Enter the name of the departmental project office or laboratory sponsoring (paying for) the research and development. Include address.
13. ABSTRACT: Enter an abstract giving a brief and factual summary of the document indicative of the report, even though it may also appear elsewhere in the body of the technical report. If additional space is required, a continuation sheet shall be attached.
- It is highly desirable that the abstract of classified reports be unclassified. Each paragraph of the abstract shall end with an indication of the military security classification of the information in the paragraph, represented as (TS), (S), (C), or (U).
- There is no limitation on the length of the abstract. However, the suggested length is from 150 to 225 words.
14. KEY WORDS: Key words are technically meaningful terms or short phrases that characterize a report and may be used as index entries for cataloging the report. Key words must be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location, may be used as key words but will be followed by an indication of technical context. The assignment of links, rules, and weights is optional.

Unclassified

Security Classification